damage it, you can't take that back.

4500000000.00 years is the half-life of uranium.

That's a long time. And the law of karma is exacting.

So I guess I would just leave you with a question. I know you're not answering questions, but when you joined the EPA or -- what gave you the right to make decisions that affect our lives? What gives you that right? And you just think about that, because I love this place.

REGIONAL JUDICIAL OFFICER SUTIN: Thank you,
Mr. Davis.

April Smith.

APRIL SMITH: That came up so fast. I want to thank Mr. Davis because I have this, like, concise thing I was going to say and not be emotional, and I really appreciate that he went there. So thank you.

I think that companies like Powertech come into places like South Dakota because the population is so small and people here, they work hard every day and they just try to get by. And they don't have time to come to things like this, and they can't educate themselves about

precedence to change their own laws is spelled out in EPA's 11/17/16 Aquifer Exemption

Technical Memorandum done by Valois Shea.

As recorded in that 11/17/16 memorandum, EPA and Powertech worked cooperatively to manipulate the status of the current drinking water use from these targeted portions of the Inyan Kara group in order to eliminate the current use protection from exemption under the current 40 146.4 criteria.

And then they intend to eliminate the "or future source of drinking water" protection of an aquifer simply by considering -- simply by not including future-source drinking water in their aquifer exemption proposal.

If this proposed aquifer exemption were to be allowed, the future source of drinking water that now protects aquifers -- clean water aquifers, that protection of that status will be eliminated by this precedent-setting aquifer exemption.

Currently -- based on the 11/17 EPA memorandum, currently there are multiple wells. This is permanent well -- wells that were used and some are currently used as well water for

human consumption and livestock consumption.

There are multiple wells drawn from the targeted portions of the Inyan Kara aquifers that were historically and currently used for both human and livestock consumption.

Many of these residences are simply currently abandoned, and therefore, the EPA and Azarga/Powertech can say for those residents they are -- there is no one currently using this water from the Inyan Kara group for drinking water.

But at least one resident continues to use the water, Well 16, from this targeted portion of the aquifer.

In order to create a no-current-use status from which the EPA and Azarga/Powertech are trying to base this particular aquifer exemption proposal, Powertech promised to permanently provide the resident with bottled water for drinking if they agreed to let Powertech sever and seal off the house -- the well to the house, the well to the home. The resident did agree, and the waterline from the well to the house was severed and sealed.

However, Well 16 continues to be used for

1 livestock for this resident. And at that 2 time --REGIONAL JUDICIAL OFFICER SUTIN: 3 Ms. Bailey, your time is up, so I need you to 4 5 wrap up. KATHLEEN BAILEY: Okay. And I will continue 6 in minutes after? 8 REGIONAL JUDICIAL OFFICER SUTIN: If there's 9 time, yes. 10 KATHLEEN BAILEY: Sure. But at that time, this was sufficient for 11 12 the EPA in this memorandum to conclude, based on the CZA calculations, the EPA has concluded that 13 14 the portions of the Inyan Kara aquifers proposed 15 for exemption do not currently serve as a source 16 of drinking water. 17 And the last meeting I attended, Valois --Valois informed me that after this November 17 18 19 memorandum in 2016, a March 6, 2017 memorandum was created in which two of the mining wells 20 21 were simply pulled out of those UIC mining well -- injection wells from that group because 22 23 they somehow devised that those two sites were what fed that Well 16. However --24 REGIONAL JUDICIAL OFFICER SUTIN: 25

1	Ms. Bailey, I really need you to wrap up.
2	KATHLEEN BAILEY: Okay.
3	What the EPA also has not disclosed is that
4	residents is that once approved, the Class
5	III underground injection disposal wells have
6	been approved by the NRC for uranium mining
7	wastewater disposal to be made available for
8	injection disposal of other radioactive waste
9	fluids from other sources, such as a municipal
10	water treatment plant, well past when uranium
11	mining activities has stopped.
12	And per the USGS to date, there has been no
13	successful mitigation of the contamination
14	resulting from uranium in-situ recovery mining.
15	REGIONAL JUDICIAL OFFICER SUTIN:
16	Ms. Bailey
17	KATHLEEN BAILEY: So your current status of
18	future source of drinking water will be
19	permanently lost if this exemption is approved.
20	REGIONAL JUDICIAL OFFICER SUTIN: Thank you.
21	Please stop.
22	KATHLEEN BAILEY: Thank you.
23	REGIONAL JUDICIAL OFFICER SUTIN: Ben Good
24	Buffalo, please.
25	BEN GOOD BUFFALO: (Speaking in indigenous

language.)

A treaty is a contract between two or more sovereign nations. That is as binding today on the governments that signed it as when agreed to more than 100 years ago.

(Speaking in indigenous language.)

You violated all these treaties, our treaties. At the very beginning -- yesterday I was at Rapid City, two days of that comments, talking, and I kind of felt bad. I felt bad because what these two ladies are going through.

And all these people in our council, in our traditional ways, the men discuss what's best for the tribe. And they always consider the women the backbone of that nation. So there's a different government, different structure.

(Speaking in indigenous language.)

I can't see those at all. I said I heard a lot of what the women went through, and I felt bad. But (speaking in indigenous language) that's how you -- the White America is. It's always been that way that. A lot of our ancestors have told us about how it has been.

And we are a very spiritual nation. We are a warrior nation, but spiritually. In our

language, there is no cuss words. There is nothing bad. It's all humor. When something bad happens to somebody and I should get mad, they make it into -- they all start laughing.

A lot of what I heard here is not compromising. It's all power. Somebody wants this done. And I know -- it cannot be done because of what it represents.

(Speaking in indigenous language.)

When something like this is taking place when life are concerned, think about it. Think about it. (Speaking in indigenous language.)

The people, we think about it.

And I was thinking about this treaty here.

And I think sometimes this treaty belongs, this

EPA, this should be on the reservation. I don't

see them there. I don't even see them there at

all. That's where the people are. The people

are there to -- like him, Hollenbeck, they want

to talk to him, like you. And they want to know

what's the best direction, but there's none of

that.

And I personally can say this: Mni Wiconi.

This word means a lot. Mni Wiconi. Life.

Water is life. There's four elements that we

BLACK HILLS REPORTING

1	use in our spiritual ceremonies water, air,
2	fire, and Grandmother Earth. Grandmother Earth
3	makes an altar for us. It's universal. The
4	whole world is the altar.
5	Why would somebody come and start poisoning
6	the water? It's not good. Not good for our
7	coming generation, the seventh generation. The
8	seventh generation is a very important
9	generation for us.
10	REGIONAL JUDICIAL OFFICER SUTIN: Mr. Good
11	Buffalo, your time is up.
12	BEN GOOD BUFFALO: And today it's not going
13	to be I see it's not going to be dealt with.
14	(Speaking in indigenous language.)
15	I hope you study this treaty. I'm going to
16	pass it on to you other people. I hope you have
17	a job tomorrow.
18	REGIONAL JUDICIAL OFFICER SUTIN: Thank you
19	very much.
20	Did Tonia Stands come into the room?
21	AUDIENCE MEMBER: She went to prepare a
22	meal.
23	REGIONAL JUDICIAL OFFICER SUTIN: How about
24	Tim O'Connor?
25	Okay. Next we can have Paul Nabholz.

PAUL NABHOLZ: I'm Paul Nabholz. I live just north of Battle Mountain here in Fall River. In the late '70s, I worked at Los Alamos in modeling fracture flow hydraulics at the Fenton Hill Geothermal project, so that was some of the early fracking.

I was a drilling engineer on a National Science Foundation drill ship doing geologic research worldwide in the late 1980s. And as a South Dakota professional engineer, I've attended about ten years' worth of the hydraulic -- western hydrology conferences up at Rapid.

And I've been very impressed with the look of the in-situ mining. It's such a low-impact mining compared to the old open pit mines.

And then, I guess here about six or seven years ago, I drilled my own personal water well into the Inyan Kara that's 580 feet deep, and I've really enjoyed the water and don't expect it to change much.

I've been off-grid for more than a dozen years. I've been on solar electric power, and I installed solar hot water heating in the last three years.

Given that, I support the injection of wastewater into the Minnelusa because it's a cleaner solution than surface application via center pivots. And so I think that's a good way to handle the in-situ mining waste.

And I've been disappointed in most of the opponents that have not taken the time to study the mining issue with the Inyan Kara formation.

At the most recent Western South Dakota

Hydrology conference, Professor James Stone's research showed that the majority of the freed uranium after mining is trapped in the formations within 100 feet of the mining zones, so it keeps it out of the rest of the water.

It's not going to contaminate the entire aquifers by any means.

And finally, I think that the Powertech project makes a lot of sense and will provide needed jobs.

AUDIENCE MEMBER: 80 needed jobs. 80. As opposed to 35,000 people who need their water.

REGIONAL JUDICIAL OFFICER SUTIN: Excuse me, sir. We're not commenting on other people's comments. If you would like to get up and speak on your own, you can do that. Okay?

1	AUDIENCE MEMBER: Okay.
2	REGIONAL JUDICIAL OFFICER SUTIN: Thank you,
3	Mr. Nabholz.
4	REGIONAL JUDICIAL OFFICER SUTIN: Next if we
5	can have Chas Jewett.
6	CHAS JEWETT: Hello. Hi. My name is Chas
7	Jewett. I'm a member of the Cheyenne River
8	Sioux Tribe. I'm a resident of hey.
9	I'm a resident of Rapid City, and I grew up
LO	in on the Cheyenne River Indian Reservation
L1	along the Moreau River. And the Moreau River is
L2	in northwest South Dakota, and we had 103
L3	abandoned uranium mines up there.
L4	We can't drink the water up there well,
L5	we can, just not the women and the pregnant
L6	women and the children. Everyone else, go
L7	ahead.
L8	So that's what you guys are looking forward
L9	to down here in the southwest because that's
20	what these companies do. These companies aren't
21	even from here. They come in here, they buy a
22	few politicians, have some really well-spoken
23	lobbyists that work for them. They say
24	"organic," and I want to throw up in my mouth.
25	But, you know, I think that we are a small

state, 750,000 people. We're a cheap date. You can come in here with a few thousands dollars, buy a few folks, and you can do whatever you want. But, you know, there's no regulatory authority looking over in the state. There's no water -- they changed the laws.

So you guys are the only people who can help us here. So help us, you know. You're here to listen to us, and we're telling you water is life out here. We need water to drink. We're all water drinkers in here, except for a couple of guys. Well, I don't know what they drink.

But, you know, we all need water. And we're not -- you know, this is -- you know, we've had a lot of different things that have come up here today. But what we haven't talked about is white supremacy, and white supremacy allows that for 500 years us, as tribal people, kept saying no, and it doesn't matter.

We said no to the project up in Standing Rock. And what did you guys do? They brought up guns and tanks. So we can say no. We've been saying no. Your consultation process is rigged for the industry, and all of this is really rigged for the industry.

1 But we the people, right here, are telling you we don't want it. 98 percent of the people 2 in Rapid City said we don't want it. We don't 3 want it. Listen to us. Hear us. 4 Thank you. REGIONAL JUDICIAL OFFICER SUTIN: 5 Thank you, Ms. Jewett. 6 We are pretty close to 5:00, so I think that 8 at this point we will take the break, and we 9 will be back here again at 6:00. 10 So we will temporarily go off the record. 11 Thank you. 12 (A recess was taken from 4:58 p.m. to 6:00 p.m.) 13 REGIONAL JUDICIAL OFFICER SUTIN: 14 15 evening, Everyone. My name is Elyana Sutin, and 16 I am the Regional Judicial Officer from the 17 Environmental Protection Agency in Denver, 18 Colorado. Thank you all for coming today. 19 will be chairing this hearing. 20 In addition to myself, we have several other 21 staff from EPA here to help assist, make sure 22 everyone who wants to speak has the opportunity 23 to do so. And I would like to introduce them to you. Douglas Minter is manager of the 24

Underground Injection Unit in the Office of

1 Water Protection in Denver.

To my right is Valois Shea. She works with Douglas in the Underground Injection Unit.

Lynne Newton is in the back at the registration table. She also works with Douglas and Valois in the Underground Injection Unit.

And then we have Lisa McClain-Vanderpool, who is our public affairs specialist.

Sisay Ashenafi, who is also standing in the back by the registration table. So if you have any questions, please find one of those folks.

On March 7, 2017 -- excuse me. On March 6, 2017, EPA issued two draft Underground Injection Control, or UIC, area permits to Powertech USA, Inc., for injection activities related to uranium recovery near Edgemont, South Dakota.

Draft permits include a UIC Class III area permit for injection wells for the in-situ recovery of uranium and a UIC Class V area permit for deep injection wells for disposal of treated in-situ recovery process waste fluids.

The EPA is also proposing an aquifer exemption approval in connection with the draft UIC Class III area permit.

We are here today to listen to your comments

on these area permits and aquifer exemption.

The public comment period is open until

May 19th, 2017. In addition to this hearing, we will hold another hearing tomorrow in Edgemont, at the St. James Catholic Church. We have also held four other hearings, one in Valentine,

Nebraska, and two in -- yesterday and Monday in Rapid City.

In a moment, Ms. Shea will explain in more detail what was proposed in the notice. But before I turn it over to her, I'd like to explain a little bit about how the hearing will work today.

We will take testimony from 6:00 to 8:00, and I will call speakers to the microphone up here on the podium if you have filled out a card at the registration table. When it is your turn to speak, please come up to the podium, and state your name before you begin your testimony.

In order to be fair to everyone, we are limiting testimony to five minutes each, and I please ask that everyone respect that time so that everyone has the opportunity to speak who wants to, especially if they haven't had the chance or the opportunity yet.

When five minutes has passed, I will ask you to complete your testimony. Please try to be as succinct and on point as you can. If I find that you're straying from the topic at hand, I will interrupt and ask you please to return to the issue before us.

If we have time at the end and you haven't been able to complete your testimony, I will allow people to get back up and finish their comments.

After you finish your testimony, members of the panel may ask clarifying questions. We are not here to explain the basis of the proposal — the notice does that — nor can we engage in a back—and—forth discussion of the proposal or respond to your comments during this hearing. The purpose of this hearing is to receive your input.

We will consider and then respond to all comments received during this hearing as well as all written comment in the final permits and aquifer exemption determination. As I said, we will not be answering any questions during the hearing.

We are recording the hearing tonight, so be

assured your comments will be considered. The court reporter sitting to my left will be preparing a transcript of tonight's proceeding that will be available for anyone who wants to see it.

The transcript is part of the record and will be included in the docket for this matter. The docket is where EPA collects materials it has considered in its action, including public comments. The docket is available on the internet for your review, or you can view a hard copy at the EPA's Denver office. The transcript of this hearing will also be available on the docket.

If you have written copies of your testimony, please give a copy to our staff at the registration table, or you can hand it to one of us. This will be helpful as we prepare the transcript.

If you have other written comments or supporting documentation that you would like to provide, you may leave that with us as well, and we will make sure that it is entered into the docket of this action.

You may also submit written comments

directly to the docket through May 19th. And instructions for doing so can be found back at the registration table.

Once the final permits are issued and the aquifer exemption determination has been made, anyone who participated in the hearings, either through oral testimony or written comment, has the right to appeal the Agency's decision to the Environmental Appeals Board.

So I will now ask -- or one other thing.

When you're giving your testimony, we will hold

up signs when you have one minute left. It's -
a yellow triangle is one minute, and then when

your testimony is done, the red stop sign

indicates that your time is up.

So at this point, I will hand the microphone over to Ms. Shea, and she will provide a little bit more information about this project.

MS. SHEA: Good evening, everyone. Thank
you so much for coming back for our evening
session. And we really appreciate the fact that
you are here with us and providing comment and
listening to the comments of others.

As Judge Sutin said, we have -- the EPA has issued two draft Underground Injection Control

permits. One is for the injection to recover uranium from ore deposits in the Inyan Kara group aquifers.

With that draft permit is also a proposed aquifer exemption decision to exempt the uranium deposit-bearing areas of the Inyan Kara aquifers from protection under the Safe Drinking Water Act so that uranium can be mobilized and removed from the aquifer.

The second draft permit is for deep Class V injection wells into the Minnelusa aquifer. In addition to these documents, we have also issued an Environmental Justice Document and a Cumulative Effects Analysis document, and then we have a document that discusses our tribal consultation process to date.

We have received interest -- or intent of consultation from a number of tribes, and we have met with most of those, and we hope to continue this process and meet with additional tribes. We will not issue a final permit decision until our tribal consultation process has been completed.

So thanks again for being here. Your comments are important to us. As Judge Sutin

BLACK HILLS REPORTING

1 said, we will consider each of them before issuing a final permit decision. Thank you. 2 REGIONAL JUDICIAL OFFICER SUTIN: Okay. 3 We'll get started. 4 Our first speaker this evening, Chris Pannill. 6 CHRIS PANNILL: Thank you guys for coming 8 all the way from Colorado. I love your guys' 9 state. I have family there. So -- my name is 10 Chris Pannill. I'm a candidate for Ward 4 city 11 councilman, and I'm also a licensed emergency 12 medical technician. I just want to invite you guys, the EPA 13 needs to come visit the Evans Plunge here in 14 15 Hot Springs because that is part of the Madison 16 aquifer. 17 And a lot of people come there to use that 18 to swim, to soak, a lot of -- to heal and stuff. 19 Our veterans in our community use that water to 20 heal and stuff. So we need our aquifers to be 21 protected. So let me just start. We drink water. If these water aquifers be 22 23 contaminated, then we will have no clean water to drink. As a licensed EMT, we will see more 24

25

hospital visits. We will have more ambulance

rides here to Rapid City. This means severe dehydration cases.

We must prevent these causes -- must prevent these cases from happening so that the ambulance EMTs and personnel can be used for serious emergencies, like heart attacks and stroke victims.

I will be quoting from the Emergency Care,

12th Edition on how water is used in part of the
human body. About 60 percent of the -- of the
body is made up of water, and without it, this
fluid, the functions of the cells would cease.

Water is distributed throughout the body both inside and outside the cells and balancing the distribution is an important part of maintaining normal cellular function.

Normally water is divided among the spaces in the body, with the following percentages representing averages. Intracellular, 70 percent is water that is inside the cells.

Intravascular is 5 percent; that is water that's in the bloodstream. Interstitial is 25 percent; this is water that can be found between the cells and the blood vessels.

We regulate the levels of water in our body

by drinking fluids and making excretions like uranium. This allows us to constantly adjust our hydrations -- the hydration based on the levels of activity. Inside our bodies, fluid is distributed appropriately through a number of factors.

The brain and the kidneys regulate thirst and eliminate excess fluids. Large proteins in our blood plasma pull fluid into the bloodstream. The permeability of both cell membranes in the walls of capillary cells determine how much water can be held and pushed out of the cells and blood vessels. Each of these factors help us regulate the amount of distribution of fluid.

If any of these factors were to be interfered with, fluid levels and distribution can become problematic. Dehydration is the abnormal decrease in the total amount of water in the bo- -- in the body. This may cause, by decreased fluid intake, a significant loss of fluid from the body by one or more variety of means.

Remember, however, that maintaining a balance of water while in a healthy

gastrointestinal system, severe vomiting or diarrhea can also become symptomatic. After the amount of water in the body, fluid can be lost as well as through rapid -- rapid breathing or a respiratory distressed patient and profuse sweating. Plasma protein in the body can be lost without injuries, like burns.

Dehydration from losing more fluid than the patient takes on is very common in hot weather, when the patient sweats a great deal of -- does not drink enough liquid to keep this fluid for this heat exhaustion. This is from Brady Emergency Care, 12th Edition from Daniel Limmer and Michael F. O'Keefe.

If our water is contaminated, then our youth will not be protected. Our citizens will not be protected. Our future is at stake. We must protect our youth and help our EMTs and first responders by leaving the uranium in the ground.

As a candidate for city council, and if I get elected, quote, I will fight to protect our youth and citizens of Hot Springs.

So I'm asking you to stop the mining in the wells to protect the American citizens. I don't see -- I don't want to see the Black Hills

1	become a third world country. I just hope
2	the
3	REGIONAL JUDICIAL OFFICER SUTIN:
4	Mr. Pannill, your time is up.
5	CHRIS PANNILL: from water I'll finish
6	real quick for World Vision to bring clean
7	water to 22 kids and families overseas. So
8	let's not turn the Black Hills into a
9	third-world country.
10	As I stated before, as a candidate for city
11	council, if I'm elected, I will fight to protect
12	Hot Springs, Black Hills, and the reservations.
13	REGIONAL JUDICIAL OFFICER SUTIN: Thank you.
14	Dennis Yellow Thunder.
15	DENNIS YELLOW THUNDER: How's that? Okay?
16	Good evening, everyone. My name is Dennis
17	Yellow Thunder, and I'm a concerned member from
18	the Oglala Sioux Tribe. I'm here tonight to
19	make comment on the UIC draft permits that EPA
20	is issuing.
21	But before I do that, I want to give you
22	I want to have something for you. Is it okay if
23	I give you just a handout? Okay. This if
24	you look at this
25	If you look on this sheet here, this handout

that I gave you, it clearly states on there that this -- and the story that I bought a bottle of water from the Hotel Alex Johnson when we were testifying there. I was at -- there was some hearings going down there concerning the same case. I bought a bottle of water there.

Happened to read the label. On the back of that label, it clearly states the Hotel Alex

Johnson bottled water is drawn from deep in the Madison formation at the base of the Bighorn

Mountains, Wyoming.

That clearly -- that's proof that that
water, those aquifers that we're attempting to
contaminate are all connected. The Madison, the
Arikaree, the Inyan Kara, the Minnelusian, the
Ogallala, White, all those formations are
interconnected. You contaminate one, the
Minnelusian, you contaminate all of them.

I say again, if you contaminate one, you contaminate all of them. You pierce Mother Earth one time into that ground, into her system, and you inject this poison down there, you're going to affect millions of people. Not just this community here, not just the Black Hills area, but all the way down to Texas.

That's a long -- the Ogallala aquifer covers all of that.

I'm sure you're all well aware of that. You probably have wells in Colorado that are connected. Mr. Hollenbeck is getting oil and water from his well because of the fracking that's going on in the Colorado Plateau.

There's no difference in that.

I just wanted to go on record stating that I also have a personal stake in this battle, in the destruction and the poisoning that can occur to the human system. My daughter and I are faced with it every day.

When your child, when your granddaughter is born without an anus, without a kidney, and a heart on the other side, you have a personal stake in this. It affects us every day.

Would you -- I know you can't answer, but imagine, would you be -- would you -- how would you feel if your child, your grandchild was affected in that way by the poisoning of the water?

And that's just not my granddaughter.

There's seven different reservations going down
that way that water is going to flow through,

every one of those reservations, everyone has a granddaughter, a grandson, daughter, sons that are going to be affected by this.

You have to look at the big picture. That's who's going to be affected by it, along with everybody else in here that has granddaughters and grandchildren and children and the future generation.

Very honored to see the youth here today, expressing themselves from their heart. The contamination that they fear is going to happen.

But quickly, I want to mention a few things. We've met before, Valois, Mr. Minter. We've met here in Hot Springs, we've met in Bismarck, we've met again in Rapid City covering these same things. And there were some issues that came up then that date back several years.

Number one is we need to conduct independent cultural surveys on the Dewey-Burdock area. EPA should require borehole identification plugging. Fence posts and sloppy sealants ain't going to work.

EPA should require additional pump tests.

Existing data is admittedly incomplete. The EPA should also require, prior to permitting, no

staged process. And also very important, this is EPA's first UIC permit. You've got to do it right, got to be careful what you do.

And you're putting the cart before the horse again by issuing a draft permit while all of these safety regulations haven't been met. So you're putting the cart before the horse. If you remember, the ASLB required you to do consultation again, do adequate consultation with the tribes. And you'll find that all of these tribes are opposed. I'll stop there.

Thank you very much for your time tonight.

REGIONAL JUDICIAL OFFICER SUTIN: Thank you,

Mr. Yellow Thunder.

Perry Holmes.

PERRY HOLMES: My name is Perry Holmes. I'm a resident of Hot Springs. I've lived here for over 30-some years and have been a resident of the Black Hills longer than that.

I am opposed to the Dewey-Burdock Class III injection wells and aquifer exemptions and Class V disposal wells. The absolute main reason I'm against this is I drink water. And I notice a lot of you have plastic bottles up here, but there's a water fountain out front. And I'm

wondering if this goes through, we'll all have to carry plastic bottles around after a bit.

My wife's family have been miners in the Hills, and I know that most of them probably oppose using aquifers for getting rid of junk from your mines and stuff like that. I have children and grandchildren that I hope will be able to use this water.

The information about this stuff that you're dumping back into the wells proves basically it is dangerous and poisonous, otherwise they wouldn't be trying to get rid of it.

We have people coming to the Hills through the tourist agencies and stuff like that. That is a rather large business we have here. Will those people all have to be bringing a lot of bottled water with them to see Mount Rushmore and Crazy Horse?

And will they also have to -- will we have to close down Evans Plunge because of contaminated water that's coming into our system? This is something I know a lot of people haven't talked about, but that is a big business in our area, the recreation and tourism.

1 I think most people in mining and stuff that 2 have been mining in this area even would agree with me that this is probably not the brightest 3 idea of dumping waste material back into an 4 aquifer area. 5 I hope to be able to live here and even be 6 buried here with my children. And I hope it's 8 not because of the water that I have to be 9 buried. 10 REGIONAL JUDICIAL OFFICER SUTIN: Thank you, Mr. Holmes. 11 12 I'm sorry if I got this wrong. Melody Suchumek. Melody? 13 14 Will Leigh. 15 WILL LEIGH: (Speaking in indigenous 16 language.) 17 My name is Will Leigh, and I'm 21 years old. 18 I'm from Virginia. And I would like to ask --19 if you could imagine the laugh that your 20 grandchildren are going to have or whose laugh 21 they are going to have, whose eyes they are 22 going to have, or maybe your child's grandchild, 23 what little quirky saying they're going to keep

somebody that you love.

24

25

living on that came from you or your sister or

And then imagine looking into those same eyes that come from you or your husband and having to explain why the way things are with the water, why and how things weren't always this way.

I know that a lot of the people that came here are proud to bring up their children as water-protectors, as people who value the earth. And so I guess what it comes down to is there might be different versions of reality at play here.

And I know it's kind of weird to say that there's more than one reality or something, but when there's -- the biggest question I have is, Why? Why are you doing this? And why -- why are you taking, coming here and -- sorry. Just a little bit nervous.

You guys have control. You're in control of how this goes, how this is set up, and what becomes of all these people coming up here and saying these things. The reason you're in control is because of 500 years of genocide.

And that's something that you're going to continue if you approve this.

Right now, you have the chance to be

water-protectors, too. And I hope that you'll realize where the power that is invested in your Agency, it's -- what it came from.

And when there's so many people involved in an agency and so many different decisions are broken up into so many different parts, it might be easy not to feel responsible, but you guys have the power. You set this up, and you're making this decision. So that means you have the responsibility.

And that's something that I'm glad that I can be able to look into my grandchild's eyes and say that I took that responsibility, whatever that I had, and I used it to protect the water.

(Speaking in indigenous language.)

Thank you.

REGIONAL JUDICIAL OFFICER SUTIN: Thank you.

Theodore Ebert.

THEODORE EBERT: My name is Theodore Adolph
Philip Ebert. I've been going at this with
these deals for -- since the beginning. I'm one
of the original opponents that filed suit
against Powertech to stop this in federal court.
So I've been in this from the beginning. I

appreciate all of you being here. Even you, Mark. Good to see you again.

I say that because, Mitakuye Oyasin, I believe this, we are all related. We're all here on this planet, and we're all here for a reason. Tunkasila didn't put each other, all of us in each other's life for no reason. We're all here because this is where exactly we're meant to be right now. Everyone here is meant to be here, all right here.

We have to choose what we are going to do.

I can't believe the pressures that you guys are under. You know, your director of the EPA just got terminated or he quit or whatever because of the pressures that were being put on him.

So I can understand that you guys are under those same pressures. But if you make the wrong decision and it's not politically correct, I won't be seeing you guys again.

And I would not want that on you. Because you have families. I respect that. I'm a soldier. I was a soldier. I fought for this country. I faced the enemy. I had bullets going by my head, men dying near me. I was lucky. I came through those things unscathed.

Those guys are all my heroes. They are all my heroes.

There was a time that I lost sight of who I was and why I was there. I lost sight. I became just a machine. I no longer saw a wounded man or cared. I no longer saw an enemy before me, just an object, meant nothing to me.

My commander noticed that, and he sent me home for a brief time. He said, Go see your family. So I was at home. I sat there for a long time. I said nothing to anyone.

One of my aunt's children came up to me and sat there with me. And it took me a while, but I realized that I regained who I was. I became okay with being a soldier again because I realized why I was there. I wasn't there for me.

I was there for everyone here in this room that never would have to do what I had to do so that they would not have to face those things.

I was there for my children, for your children, for your grandchildren, for your great-grandchildren, so they'd have a place to live on this great planet.

Now, this is about water here. This isn't

about uranium ore. It's about water. This corporation -- and you and I know both know, you're learned people. You've been doing this a while. You've seen the international community and how it works.

So you and I both know that if you give these people that water -- and it's not 8,000 gallons a minute. I understand that they just increased the request to 8 billion gallons a year; is this correct? If I'm wrong, tell me I'm wrong.

That equivocates closer to 15,000 gallons a minute. Now, this is a free gift. This is not anything that these people are going to be charged for. This is free to them. They do not even have to mine uranium there.

They can open up a water bottling plant out there, and they can sell that water to whomever they choose. Once they have this permit, that's all they have to do. They never have to mine uranium out there. The water is a gift to them, free. They can do with it what they want. So I'm definitely against this. I hope you can see that.

I know Mark knows that. Him and I, we

sat -- we eat lunch together sometimes, so we understand each other. We both have families. He's got a family. I got a family. We respect each other in this way.

So he knows, that man knows I'm not his enemy. From my heart to his, he knows that. He knows that as a member of this community, in the event that all this falls through -- and he's on the verge of losing everything he has.

He knows that us as a community will come together to help him in any manner we can to see to it that he makes it through that. We know that, and he knows that. I told him that before, too.

So anyway, you guys, I wish you the best in your decision-making process, and I'm sure happy that I'm not in your shoes. Sometimes you just gotta do what's -- just because it has to be done. I've lost many jobs. I've got court-martialed a few times, and I paid the price for things that I just refused to do and I said this isn't going to happen, not on my watch.

So bless you guys. Thank you.

REGIONAL JUDICIAL OFFICER SUTIN: Thank you,

Mr. Ebert.

Susan Sugzda -- Sugzda. I'm saying that wrong.

SUSAN SUGZDA: Pretty close.

Good evening. I'm Susan Sugzda from the western Custer County area. I've done a little basic cost input analysis, and the costs of this project would be thousands of gallons of free water from aquifers in a drought-prone area.

Benefits: One would be lots of money, I guess, to the companies, which I understand are Canadian and Chinese, and in the future likely others will want to also have the chance; and a few local jobs, which I believe will turn out to be fewer than we've been led to believe probably, possibly.

So the result is that the benefits simply, in my opinion, don't -- are not worth the extensive cost. In the past around here, companies that have done mining have simply gone bankrupt and disappeared.

So are there bonds being expected from the company to pay for the desalination and the decontamination of the free water to them that then becomes kind of costly to the rest of us

1	left with the problem?
2	The EPA stands, obviously, for the
3	Environmental Protection Agency, and we ask that
4	you do what we pay we taxpayers pay you to
5	do, and that is to protect our water from
6	contamination. Thank you.
7	REGIONAL JUDICIAL OFFICER SUTIN: Thank you
8	very much.
9	Tasina Sapa Win.
10	TASINA SAPA WIN: (Speaking in indigenous
11	language.)
12	My name is Black Shawl Woman. I am from the
13	Cheyenne River Sioux Tribe from a little
14	community called Swift Bird. I live right by
15	the Missouri River.
16	I'm also here to talk on behalf of the
17	International Indigenous Youth Council. And
18	what we are is a grassroots organization that
19	started in Standing Rock that empowers youth in
20	their comm or to become leaders in their
21	indigenous communities through activism that
22	primarily circulates around social and
23	environmental justice, treaty recognition, and
24	tribal sovereignty.

I'm -- I could come up here and give you a

huge speech. I could give you a bunch of statistics. I could tell you pretty much everything that you've already heard from these fine people in this crowd.

But instead, I'd rather tell you exactly what comes from my heart. And I'm looking at you right now in your eyes, and I'm going to plead with you to make the right decision here.

I'm also a young mother of a beautiful five-year-old boy. He will be six here in a couple weeks, and he changed my life at a young age. And I made him a promise when he was born, and that was to protect him at all costs.

And by protecting him, that's why I'm standing up here, not just him, but for all children of our future.

Where I come from, Cheyenne River deals with a lot of addictions that are like alcoholism, meth addiction, gambling. The list goes on.

Addiction has enablers. These companies and this government are addicted to nonrenewable energy.

And just like all addictions, they have enablers. The EPA is being an enabler to addicts. Addictions to what? The cruel profit

of indigenous resources -- money, power, and greed.

Just like all addictions, they need -- they need help, and I'm begging that the EPA help this country. These companies are foreign. How could you let foreign companies come into this country and drill toxic, lethal chemicals out of the earth and then not clean up after themselves? That jeopardizes our health, my son's future, clean aquifers everywhere.

I saw your presentation yesterday, and I seen a point that you made saying that the aqu- -- the water that you found underneath is undrinkable. Yeah, maybe undrinkable to humans, but it's not undrinkable to the earth. It's not undrinkable to the soil. It's not undrinkable to the plants or the rivers that it will be flowing into. We need water.

I mean, Standing Rock and the indigenous people of this land have shook the world, opened the eyes of the public, and now we are saying to stop. Please stop. We don't want to be sick anymore. We don't want cancer rates skyrocketing, diseases going unexplained.

Mni Wiconi. Let that stick with you,

1 please. Because it is life, not uranium, 2 nuclear power to fund -- I mean, they are going to be using it for nuclear energy, foreign 3 companies, some of which are not even allied 4 with the United States. 5 So you're going to be helping companies that 6 are foreign that are not exactly allied with the 8 United States for nuclear power? That's scary. 9 And it should scare you, too. 10 So what I'm asking one last time, you know, 11 is please respect us. Honor our treaty of 1851, 12 1868. Honor our indigenous rights as people --13 not just as indigenous, but as human people. 14 This is not just as an indigenous problem. 15 This is a human problem, an all-life 16 problem, all of life -- the four-legged, the 17 wind, the water, the plants, the earth. And 18 it's a serious problem. 19 Please start respecting us, or you'll be 20 expecting more of us. Thank you. REGIONAL JUDICIAL OFFICER SUTIN: Thank you. 21 22 Dr. Hannan LaGarry. 23 DR. HANNAN LAGARRY: My name is Dr. Hannan LaGarry. I am a professor at Oglala Lakota 24 25 College on the Pine Ridge Reservation.

In 2014, I served as an expert witness on behalf of the Oglala Sioux Tribe and the consolidated interveners in opposition to Powertech's license renewal.

As part of that proceeding, I had the opportunity to review some belatedly disclosed data from Powertech after the hearing had concluded.

On November 12th, 14th, and 15th in 2004, myself and three student assistants reviewed drillers' notes and borehole logs prepared by the Tennessee Valley Authority that was disclosed by Powertech. This review was conducted at the Powertech offices in Edgemont.

We were able to review drillers' notes from 4,177 boreholes, 56 percent of the total of 7,515 that were available to us. In this data we found written records from drillers of 140 open, uncased holes; 16 previously cased, redrilled open holes; 4 records of artesian water; 13 records of holes plugged with wooden fence posts; 6 records of holes plugged with broken steel; 12 records of faults within or beside drilled holes; 7 notations, "Do not record this value on drill hole maps"; 2

notations, "Do not return this data to the landowner"; and 63 redacted borehole logs.

Redacted borehole logs are those things you see in top secret documents where they are blacked out. So the TVA had some secrets to keep.

Many of these notes contained references to water at various levels and poor, muddy, or destroyed samples coming from the holes. We also found that in the datasets we reviewed, lots of records had been moved or were missing. This data, Powertech attempted to suppress it, but the Atomic Safety and Licensing Board overruled them.

When it was time to make this testimony public, Powertech objected, but the Atomic Safety and Licensing Board overruled them. In the final partial initial decision, this testimony resulted in license conditions requiring Powertech/Azarga to exhume all 7,500-plus borehole logs and examine them to make sure that they were properly plugged. This work has not been done.

Powertech appealed this decision and these license conditions, but the Atomic Safety and Licensing Board denied the appeal, and those

1	license conditions stand to the present time.
2	Thank you.
3	REGIONAL JUDICIAL OFFICER SUTIN: Thank you
4	Dr. LaGarry.
5	Tonia Stands. Tonia Stands.
6	TONIA STANDS: Hello again. Hello again.
7	I'm Tonia Stands.
8	(Speaking in indigenous language.)
9	That's my Lakota name, first Lakota name.
10	So I hold that with all my heart because my
11	grandma gave that to me. I really honor that.
12	And the reason I'm going to tell you about
13	my grandma and my Lakota name is there's a huge
14	ancient connection through me that is, I guess,
15	intellectual property. I'm not a scientist.
16	I'm not I don't have no American degree.
17	But through me time has passed through
18	me, and I know things about this place and about
19	this water.
20	And you know, I look at you, and I think I
21	would love for you to understand what this place
22	means to them, the whole nation of people that
23	speak Lakota, Dakota, and Nakota language.
24	We're all one nation.
25	And we don't and we come out of the

ground. We come out of Wind Cave. You can go to Wind Cave, and there's a nice little sign that points at a hole in the ground, and it tells that story. And you can't take that away from us, and you can't deny that.

And we -- we -- they made this country on a religious freedom, you know. It's the constitutional right we have, religious freedom. And you know, it -- and I'm -- I'm -- I was born in 1978. And in that year, in 1978, as old as I am, that is as long as we've had religious freedom.

We can't go access these sacred sites

because now they are in -- not on our property.

All I can tell you is this is the mecca, this is
the center of the universe. We have -everything is a relative. We have a Lakota,

Dakota, Nakota name for each element that
science hasn't even caught up with.

We have cultures that are like polar opposites. And the reality is the President is the center of everything, but in our way of life, it's the inner circle. That -- that's who we -- that's who leads us -- our children, our elders, never, ever, ever a man.

And we're led -- and our people are led by the women. We're natural multitaskers. We can just have this all figured out and food on the table, everything done, and smiling. So -- and we honor that.

And you guys come from a culture that's, again, the polar opposites. And you look at that, and you don't even have -- you couldn't even vote. You couldn't even vote. That's how -- that's how in that little amount of time that you've come, but yet we lived that since the beginning of time.

So anyway, I come from Oglala, which is about, you know, as the bird flies, right over here. Well, through my family that comes from there, our territorial homeland guardians, we go south, my grandmas that raised me.

So they brought me into this area and, you know what, I grew up off the land. I didn't have running water, electricity. I lived in a house that my grandpa built, my great-grandpa. And my great-grandpa, we lived here, and we were pushed back to a reservation, and we couldn't come back out here without a pass.

So my grandmas come through Hot Springs, and

1 they used to tell the story, and they used to cry. We don't go through Main, we go right up 2 There was an old road through there. 3 And they told the story how when they would 4 come, everybody would come out of their houses 5 and stare at them and throw stuff at them, and 6 it was sad. They took that connection away. 8 REGIONAL JUDICIAL OFFICER SUTIN: I'm sorry, 9 Ms. Stands, but your time is up, so I need you 10 to wrap up, please. 11 TONIA STANDS: I'm going to come back, 12 though. REGIONAL JUDICIAL OFFICER SUTIN: Please do. 13 14 Thank you. 15 Jackie Gericke. 16 JACKIE GERICKE: My name is Jackie Gericke. 17 I, my husband, and two small children moved 18 from Ocean County, New Jersey to Hot Springs, 19 South Dakota 25 years ago. Before we moved, we 20 didn't check the local business climate, we 21 didn't check out the schools, we didn't 22 seriously investigate the housing market. 23 Although I had a three-month temporary position, we didn't even have permanent jobs. 24 25 We moved here for the beautiful night sky, for

the clean air, and especially the clean water.

You see, where we moved from, our local wells had become contaminated. Luckily, there was another source of water. It was the Cohansey aquifer. All of our relatively shallow wells were mandatorily capped, and a municipal water system was hurriedly installed.

Problem was, I felt that it was only a matter of time before the aquifer itself was contaminated, and there was only sand between the wells and the new municipal water source.

Another environmental issue that caused us to leave our home was the fact that we lived only a few miles from the Oyster Creek nuclear power plant. It's been clearly shown that there are much higher rates of cancers among people who live and children who are born near nuclear power plants.

While there, we were involved with what is known as the Tooth Fairy Project, where researchers collected children's baby teeth to measure the amount of radioactive strontium-90 that was contained within those baby teeth.

Strontium-90 is emitted by power plants, nuclear weapons testing, fallout, and other

sources of radiation. Because it so resembles calcium, the body is fooled into depositing it into bones, in children's baby teeth where it forever emits radiation.

The children in our county showed a statistically significant higher amount of radiation in their teeth than children in other areas.

My health means more to me than money. Your health means more to me than money. Clean water is our most precious resource. We drink it. We bathe in it. We cook it with it. We water our pets and livestock with it. We water our gardens. Water is life. And that single resource, clean water, is worth more than any amount of gold we receive from a short-lived, short-sighted mining program.

There's not many places that can claim to have the water resource we have. We are talking pristine, untouched, unspoiled, nonrenewable aquifer water which took thousands, if not millions of years to form.

We shouldn't even consider any project that could jeopardize this incredibly valuable resource, especially when the consideration is

for the material wealth of a few.

I am here today to ask you to consider the future, when clean water is even more rare than it is today. I moved here for the water. I've met others who have moved here for this clean environment. There are people who live here for this clean environment.

Extreme conservation must be used. I know you'll take extreme care in making your decision, and I pray that it's the right decision.

I never in a million years expected to be before the Environmental Protection Agency of the United States and ask that you please not allow our water to be poisoned. But that is what I am doing here today. I am asking that you not allow our water to be poisoned.

Thank you.

REGIONAL JUDICIAL OFFICER SUTIN: Thank you.

Debra Johnston. Debra Johnston?

Lisa Wolf.

LISA WOLF: Greetings. Thank you. I sent in a written statement by e-mail, but I had to speak when I heard comments about how safe nuclear power and nuclear waste are.

I'm the chairwoman of a Nevada nonprofit called the White Buffalo Nation. We are dedicated to mending the Sacred Hoop of Life.

My youngest daughter was born in a barn in the straw in Wisconsin near where Miracle had been born in 1996.

And I came to South Dakota the end of
February to help with the reestablishment of
Oceti Sakowin traditional government. I do a
radio program I've been doing since -- well,
Standing with Standing Rock, Savage Sovereignty,
and Water Protectors we've been doing since
August because this is Lakota, Dakota, Nakota
land.

Today as we -- as you consider permitting the request of Powertech/Azarga, the West Lake Landfill is on fire underground in Montana. The Hanford Nuclear Site in Washington state has seen a tunnel collapse. According to my friend Bob Nichols of Veterans Today, Your Radiation This Week, we are at evacuation levels for radiation pretty much across North America as it is.

In fact, Pierre -- Pierre, South Dakota is reading at 7,929 counts per minute, and I

believe safe levels break off at 100. This is from EPA data, by the way.

So one of the things that we've been focusing on on my radio program, which is titled Utopian Realities: From Concept to Planetary Restoration/S.L.O.P.E. Earth Aid Now, is solutions to extinction-level threats. We feature scientists, such as Professor John Searl, Searl Effect Generator, reenergy, radiation remediation. We feature people who have products that bioremediate the body to drop heavy metal toxicity.

And now I live in Hot Springs, and I've been getting water -- I was getting water from Cascade Springs. And then Susan Henderson told me that, as far as she knew, it was radioactive. So I spent the morning on the phone with the USGS and found in fact that there are showing to be high levels of strontium.

And then it was suggested to me that I reach out to friends from Pine Ridge and Wounded Knee and ask that there be a Standing Rock-style encampment in Edgemont. And then I was told by another person that that wasn't wise because the airborne radiation there from those open

1 boreholes and the uranium mining that's already happened is so high that it's not safe. 2 So I would ask the Environmental Protection 3 Agency to be matriotic, to love this land, and 4 to put your time and your energy and your money into supporting alternatives, into supporting 6 healing the earth, instead of supporting a death 8 machine and a death culture. There's no need, and it's time to tell 9 10 people what's really going on. My friends who 11 are scientists laugh at the thought of nuclear 12 power plants and how ridiculous it is to cause so much damage to boil water to make power. 13 REGIONAL JUDICIAL OFFICER SUTIN: Ms. Wolf, 14 15 your time is up. 16 LISA WOLF: When we all know that those 17 materials ultimately are for weapons of 18 destruction. Let's support life. Thank you. 19 REGIONAL JUDICIAL OFFICER SUTIN: 20 Ms. Wolfe. 21 Joseph Farrell. JOSEPH FARRELL: Hello. I am Joe Farrell. 22 23 I'm a licensed Wisconsin master plumber. I have a plumbing contractor's license in this state. 24 25 I was a licensed well pump installer in the

state of Wisconsin.

So that people don't engage in ad hominem arguments, I have worked in nuclear power plants. They are one of the safest places you work because if you make a mistake, the results are catastrophic. So I have a lot of respect for how dangerous nuclear power is.

I'm not philosophically opposed. I just think there's got to be better alternatives, given the fact that they still haven't figured out what to do with the waste and because it's so dangerous, you have to work so carefully around it, so as not to really create another Chernobyl. But my concern is not based on that. It's -- I'm concerned about the 4,000 wells that are going to be drilled there.

Right before Hannan's presentation, I was going to say that on a very conservative estimate, a half a percent failure rate nobody is going to dispute. That means at least 20 of those wells are going to be open sources of contamination.

And what worries me and -- is the fact that they are using oxygenation. And in Wisconsin, we were weren't allowed to chlorinate wells

BLACK HILLS REPORTING

because it's an oxygenation process that releases arsenic, and we had a lot of arsenic over in some of the aguifers there.

And the hydrologists made some mistakes, and the arsenic was traveling places they didn't expect. The solution was they drilled wells into aquifers that were deeper and were safe.

They had some well drillers who got sloppy, had -- the annular's places were not sealed correctly, and they created an open source of contamination into the contaminated aguifer.

So I'm real concerned about those wells.

And this may sound really callous to a lot of people in the audience, it's not humans and drinking water I'm worried about because there's a lot of plumbers and equipment installers, they'll sell you for a really expensive price, there's ways to get water safe to drink for humans. They'll make a lot of money doing it.

I'm not going to be one of them because I'm not into that.

But my big concern is that if -- and most of the people who are proposing this are proponents of these wells. If they are wrong and their calculations -- because no one seems to be disputing them.

If they are wrong in their calculations and they ruin the aquifers, I live over in Oral.

All my neighbors are ranchers. Some of them I know are third generation, there's probably some fourth generation over there. You're not going to be able to save the beef in this state.

No matter how good your marketing campaign is, you know, "Eat South Dakota beef; it glows in the dark" is just not going to cut it. So you're going to destroy the beef industry.

I really wish there would be more ranchers that would show up at this. I understand it's -- for Native Americans, I understand the respect for the earth and stuff.

But the ranchers, they need to get on board opposing this. Because if the Powertech is wrong and their data is wrong and they ruin that aquifer, the face of South Dakota will change.

We'll no longer be a community where I live of ranchers. That's all going to go away.

There's generations who have done that, and that's all going to go away. And so I have a real concern about those wells.

And I'm going to get in touch with

154 1 Dr. Hannan. Yeah, those guys are a lot sloppier 2 than I thought. Having worked in a nuclear 3 power plant, I thought they would be a lot more careful. They are really sloppy in their well 4 drilling. 5 You need to really regulate them. You need 6 to have an NRC person on every well if they are 8 going to continue to do that because you need to 9 have some stern controls. They are not 10 controlling themselves, and probably because 11 they are an outside company. 12 And that's all I have to say. Thank you. REGIONAL JUDICIAL OFFICER SUTIN: 13 Thank you 14 very much.

Roger Pfeifle. Roger Pfeifle. Sorry if I pronounced your last name wrong.

15

16

17

18

19

20

21

22

23

24

25

ROGER PFEIFLE: My name is Roger Pfeifle.

I'll read here what I wrote.

I've been trained as a chiropractic doctor; therefore, my concern is not just about the water, which is an immense concern, but also about the overall quality of life pertaining to the human condition. For example, the health of the humans and the environment in which we live.

It is therefore prudent to consider the

purpose of the uranium operation, which is obvious: Feed the nuclear industry, which feeds the nuclear threat of water contamination.

That's what they're going to do with this uranium.

Corporations have been proven to be sociopathic. The power structure of the human race has proven -- the power structure of the human race has proven itself to be psychotic and severely corrupt.

You who sit in regulatory positions are playing a fool's game if you think you can be reasonable with these institutions. True human beings do not want to live like this. If you are making excuses for this industry, you are losing your humanity.

This should concern you. It should also concern you that there is an international justice movement gaining traction on the planet, and anyone involved in the degradation of and threatened -- and threats to human life is going to be held accountable.

You are on this list if you allow this malicious insult to our beautiful homeland, our beautiful Black Hills, our beautiful lives to

1 continue. We have heard all the promises and 2 assurances of the corporate hierarchy. You should know by now they cannot be trusted. 3 I pray for your well-being. I pray you -- I 4 pray you have the courage to handle the immense pressure this question is asking. 6 REGIONAL JUDICIAL OFFICER SUTIN: Thank you. 8 Danielle Rose. 9 DANIELLE ROSE: My name is Danielle Rose. 10 live in Hot Springs and Eagle Butte. 11 (Speaking in indigenous language.) 12 My Lakota greeting was I greet each of you from this side of the room all the way around to 13 here with a warm heart and a hearty handshake. 14 My Lakota name is First Cloud. I was named 15 16 after Chief White Swan's -- one of his three 17 daughters, First Cloud. I'm a tribal member of 18 Cheyenne River, and I grew up near Green Grass. 19 Today I want to express my disagreement with 20 the permits by using the medicine wheel. 21 of you know, that's divided into four quadrants with the colors yellow, white, black, and red. 22 23 Well, those colors represent the races. Yellow is for Asian or Oriental, and they're 24 25 responsible for spirituality. White is for

1 Caucasians, and they are responsible for the physical and introspection, going inside of 2 3 self. The black, of course, is African-Americans, 4 and they are responsible for the water. red, of course, is us Native Americans, and 6 we're responsible for the land, or Mother Earth. 8 I beg you to listen to the learned speakers 9 that have presented today. I'm -- I've learned 10 so much. And I'd like to ask that you in your 11 position -- and I know you have a lot of 12 responsibility, especially in this current administration. It must be very difficult. 13 14 But I ask you to look inside yourself, look 15 at your heart, and have the courage to do what's 16 right and protect the water and protect Mother 17 Earth. 18 (Speaking in indigenous language.) 19 REGIONAL JUDICIAL OFFICER SUTIN: Thank you, 20 Ms. Rose. Kathleen Jarvis. 21 22 KATHLEEN JARVIS: It's May 10th, 2017. 23 Uranium mining EPA hearings. Public information sessions and hearing for the proposed 24 25 Dewey-Burdock Project ISL mine near Edgemont.

The South Dakota Environmental Impact Statement, the SEIS, fails to consider connected actions.

My name is Kathleen Jarvis. I am born on a tiny island off the coast of Hiroshima just after the bomb was dropped. Comment: My concerns regarding the Dewey-Burdock Project are centered around the problems of artesian flow and interactions with the remediation of buried chemical warfare material located at the Black Hills Army Depot less than 10 miles to the south.

Furthermore, Powertech's experts propose land applications on river terraces and deep well injection into aquifers within the project boundaries under the sanction of EPA permits to be exempted from the Safe Drinking Water Act, SDWA 1977 and 1986.

Surface water flow in channels is ephemeral, except for perennial Beaver Creek. U.S. Army

Corps of Engineers permits under Section 404 of the Clean Water Act will be required before conducting work in jurisdictional wetlands.

The Dewey-Burdock Project will transmit the applied and/or injected waste directly into the area of the Beaver Creek watershed within the

Upper Cheyenne River watershed of the Cheyenne River to flow eastward through the state of South Dakota and into the Missouri River, affecting the entire Missouri River Basin.

Refer to Exhibits A through L.

I actually prepared overheads. Pictures are worth a thousand words, if I might. Exhibit A is the Dewey-Burdock location, within the four-state -- Wyoming, South Dakota, Nebraska area.

Exhibit B is the Dewey-Burdock project in relationship to the national forests. Exhibit C is the Missouri River Basin, and I wish to point out Rapid City, South Dakota. This is the Dewey-Burdock in relationship to the Cheyenne River.

Exhibit D is the Beaver Creek watershed within the Upper Cheyenne River watershed.

Within that context, this is the Cheyenne River.

This is the Upper Cheyenne River watershed.

This is the Beaver Creek watershed, the Beaver Creek and the Pass Creek. This is

Dewey-Burdock.

Exhibit E, this is the actual boundaries of the project, Dewey-Burdock Project, showing

1 the -- excuse me, Beaver Creek coming through 2 the Chilson wellfield and the open pit Burdock. 3 These are all the tributaries, et cetera. In addition, I have for you Exhibit F, which 4 is a Google shot, a wide-angle shot of the 5 Beaver Creek. Please bear in mind the 6 relationship of these features with the Chilson 8 wellfield. 9 In addition, Exhibit G -- I apologize, I did 10 have this in overhead. We're technically 11 disabled right now. This is the drainage coming 12 off of the Black Hills across the Chilson wellfield. 13 In addition, this is a closer shot in 14 15 relationship to the Beaver Creek and the Chilson 16 wellfield. Again, a closer shot of that with 17 the Beaver Creek and the Chilson. 18 Exhibit J is the close-up shot of the actual 19 Chilson wellfield. You can see the pock marks 20 with the fact that it is a drainage area for the Black Hills themselves. 21 22 What I have given as Exhibit K is the 23 relationship between the Burdock open pit mines and the Chilson wellfield --24 REGIONAL JUDICIAL OFFICER SUTIN: 25

1 Ms. Jarvis --2 KATHLEEN JARVIS: -- Burdock, et cetera. REGIONAL JUDICIAL OFFICER SUTIN: Your time 3 is up, so I need you to wrap up, please. 4 KATHLEEN JARVIS: If I might continue. The Dewey-Burdock Project will transmit the 6 applied and/or injected waste directly into the 8 area of the Beaver Creek watershed. Within the 9 Upper Cheyenne River watershed of the Cheyenne 10 River to flow eastward throughout the state. 11 Water quality: Other areas are dealing with 12 primary and secondary water quality issues. Southern Black Hills Water System Appraisal 13 14 Report. For example, the town of Edgemont has 15 16 quality concerns with primary drinking water 17 standards relative to some categories of 18 radionuclides, example, alpha particles that can 19 result in increased risk of cancer. Edgemont 20 has shown a test of 17 milligrams per liter on 21 alpha particles, and the U.S. Environmental Protection Agency limit is 15 milligrams per 22 23 liter. REGIONAL JUDICIAL OFFICER SUTIN: 24 I'm sorry, 25 Ms. Jarvis. If we have time, you can come back

up, but I need to make sure that everyone has
the opportunity to speak.

KATHLEEN JARVIS: Okay. That's fine.

The last was the relationship of the wellfields with the Black Hills Army Depot.

That in and of itself has critical conditions to this project.

REGIONAL JUDICIAL OFFICER SUTIN: Thank you very much.

Jennifer Belitz. Jennifer Belitz?

JENNIFER BELITZ: Jennifer Belitz. I've

been here for 17 years raising my two kids in

the southern Black Hills. I own property along

the Cheyenne River. I have animals that drink

from it. I have an Inyan Kara domestic well

that supplies household water and drinking water

for my livestock.

I haul my family's drinking water from a Minnelusa well. I have well log data with me from a neighbor's well that is in the same formation as my family well. And on the driller's notes it says: Note the flowing cave formation at the water level, in the Ferguson well, which is in the Minnelusa formation, which is what we get our drinking water from.

I do understand the interest a mining company would have in ISL at the Dewey-Burdock location. I do however feel that my water and the water of my community could be irreversibly harmed, besides the inadequate standards for the settling pond waste that could potentially contaminate the river, the Cheyenne River, and the much-utilized Angostura Reservoir, which is what the lady was -- before me was just talking about.

Today we're talking about the aquifers, the
Inyan Kara and the Minnelusa. Both we utilize.
For the Class III area permit for the Inyan
Kara, I believe that these proposed mining
activities pose a risk to my Inyan Kara water by
undetected or late-detected excursion, as I am
downgradient from the mining activity.

As far as the Class V area permit for disposing the in-situ mining waste fluids into the Minnelusa formation, the Minnelusa aquifer is a high-quality aquifer. It is well utilized in the southern Black Hills.

In addition to the domestic Minnelusa well that we haul our drinking water from, this aquifer sits approximately 1,000 feet below my

property, making it a potential drinking water source for my family and livestock for generations to come.

According to the atlas of the Black Hills, the Minnelusa aquifer flows from the proposed ISL site to my property. The contaminants injected are likely to pollute this potential drinking water source sometime in the future.

When I spoke with four hydrologists at the USGS on March 29, 2017, I learned the following: Yes, the flow model in the Atlas of Water Resources of the Black Hills does indicate that the Minnelusa flows from Dewey-Burdock to the southeast, which is where I live. However, they tell me that you can't judge just from the model of the flow system in that figure. The water in these aquifers can be really hard to track their flow.

In cave environments, such as the Minnelusa, which our well log data did say that there was a cave, the underground water almost flows like a river. There are local and regional impacts on some of the flow systems that are not indicated in the figure, and some of them are unknown.

According to a national data -- national

water database, there are minimum -- a minimum of 125 wells drilled into the Minnelusa aquifer in Fall River County, and I believe that there are more.

My own family's well was drilled approximately 20 years ago, and there is no record of it in the current state DENR well log data site. Speaking with a DENR employee May 9, 2017, I was told that many well logs were not submitted, especially those during or before the 1980s.

We know that the Minnelusa aquifer and the Madison aquifer mix. In the Atlas of Water Resources of the Black Hills, again it indicates that Cascade Springs is mostly Madison water but with dissolved Minnelusa minerals. The Cascade is a utilized drinking water source.

The Cascade Falls is a highly visited swimming area attraction, and the 1890 irrigation system from this water provides many acres of hay, fruit, vegetable production, livestock watering ponds for area landowners, including my own pond, hayfields, and apple orchard.

Another publication by the USGS indicates

the Minnelusa aquifer is hydrologically separated by the underlying Madison aquifer by shales. However, in many areas the Minnelusa is in hydraulic connection with the Madison.

Some information from deep well injection from North Dakota I found interesting because I grew up there, and I have witnessed a lot of the oil boom in that area. They are injecting waste into the ground, and I thought that maybe something we could compare to the Minnelusa here.

And I found it's very incomparable because they are injecting up to a mile down, well below any drinking water, and one of the requirements is that it has to be in a formation that is confined in the upper and lower zones.

REGIONAL JUDICIAL OFFICER SUTIN:

Ms. Belitz, your time is up. I need you to wrap up, please.

JENNIFER BELITZ: Okay. Just my summary up, so because of the scientific data, I believe that the EPA should not even consider permitting that Class V permit in the deep -- for deep injection into the Minnelusa. The Minnelusa is too shallow, it's unconfined, and it is known to

mix with a very important aquifer, and it itself
is an important and currently used aquifer.

Thank you.

REGIONAL JUDICIAL OFFICER SUTIN: Thank you very much.

Mark Sperlich.

MARK SPERLICH: Thank you for coming, and thank you for hearing us. My name is Mark Sperlich. I used to farm, eastern part of South Dakota. And I know of a guy who just moved here from Iowa, and he just said here a month or so ago that a town in Iowa about the size of Hot Springs was just informed that their drinking water has been contaminated by nitrates, probably because of surface runoff from all the hog confinement areas.

So I'm thinking, if surface water can contaminate an aquifer in Iowa, the injection into the -- into the ground certainly can contaminate it.

And I am not an expert on any hydrolysis and all that. But I found it interesting that in the very first article in *Hot Springs Star*, there was -- where they talked about Powertech, there was also an article about a cleanup at a

uranium mine in Colorado, I believe.

But they were talking about firsthand knowledge. The one guy said that the tools seem to have just been dropped as they left, and he could feel the heat through his gloves as he was trying to clean them up.

And I'm thinking, I don't think they planned on that. That was probably something they hadn't planned on or noticed or realized or something went wrong, and it took years for the state or the government to come up with a Super cleanup to clean that up, and it's unfortunate that they just walked away because then the taxpayer had to pay for it.

And with this being a foreign company, I don't see how we're going to be able to get them to clean it up, even if it were possible to clean it up.

So I would say while you have the ability,
make sure that you get enough fund money from
them beforehand so that it takes the profit away
from them so that if they do it properly,
supposedly, that they get their money back.
Otherwise, they are just going to consider it a
point of -- what do you call it -- operating

expense to pay the fine. And then they'll just leave, and we have to deal with it.

So please do not give this to them, and make it high enough so that it's mandatory. As much money as they plan on making, make them pay that ahead of time. If that would deter them from being sloppy, that would be money well spent.

Thank you.

REGIONAL JUDICIAL OFFICER SUTIN: Thank you. Cindy Brunson.

CINDY BRUNSON: I'm a local rancher. I live at the Black Hills Ordnance Depot at Igloo,
South Dakota. We arrived in this area in 1987.
When I came to Edgemont, they -- the Tennessee
Valley Authority, they had hazmat suits on and
Geiger counters -- Geiger counters going around
Edgemont, picking up uranium tailings from the old site.

Unfortunately, we moved to a ranch unbeknowing [sic] that there was uranium mining done there, and there was holes after holes, borings that were never plugged. They -- you could drop a rock down them, and it sounded -- seemed like it went endlessly, you know. I have no idea what depth these were. But anyway,

nobody ever did anything to plug any of these holes.

So my concern is, there's a possibility of cross-contamination because of these borings, just like that man from the university over at Pine Ridge said, that, you know, they haven't expressed or told everybody about all the borings that were never plugged.

As a rancher, you know, first I would like the EPA to go back and have those areas cleaned up from the old uranium mining that was never ever cleaned up. And it's my understanding that the landowners won't let you back on because they feel they might be liable for the cleanup now that all these companies are gone.

I want to talk about the water. We have
Inyan Kara; that's what waters our whole ranch.
And the master plumber is right, there should
have been more ranchers here because the beef
industry in this county would go by the wayside
if there's no water.

The cultural resources that you were wondering about and stuff like that, as a rancher, when I want to put a pipeline and I'm several miles away from where you're going to

put this site, I have to do this study. And the reason why is because pre-historic Indians were in the area.

Well, then you just follow the trail, and it goes up to Craven Canyon, where the petroglyphs are. And anyway, that's relatively close to where the mining is. So I'm quite sure all the Natives that have spoken here really know that, you know, this is a sacred ground to them.

The water, it might not be a high quality, but I guarantee you, without it, this ranchland would sit vacant, because there is no way you can run a ranch without water.

The ranchers that kind of got on board with this in the area, why, they offered them high-dollar leases. Ranching isn't profitable every year. You can go to the bank with this added income of this lease, and you can look a lot better on your balance sheet.

A lot of promises were made that, Oh, if we damage the water, we'll clean it up. And to my knowledge -- I have a veterinarian out of Crawford, Nebraska, where they have the uranium mining down there, and he said that his water is so bad that he cannot even stand to go down in

BLACK HILLS REPORTING

the basement.

And he had a high quality, and they are supposed to stay with the water standards down there. So I hate to think what the Inyan Kara is going to look like or taste like or be like after you get done with this mining process.

My other concern, I am active with veterans.

I'm a life member of the VFW and American Legion

Auxiliary. And I'm concerned about our vets

because I don't really believe this uranium will

be used for a nuclear plant. I believe our men

or women are going to face it in a nuclear

attack or something like this. And so I'm not

interested in letting a foreign company take any

of our natural resources to use against us.

So thank you.

REGIONAL JUDICIAL OFFICER SUTIN: Thank you very much.

CINDY BRUNSON: Also, there was a lot of reference to this, and I would strongly suggest you get a copy of this because it would be very helpful to explain a lot of these comments that these people have been giving to you today.

REGIONAL JUDICIAL OFFICER SUTIN: Robert White Mountain.

1 ROBERT WHITE MOUNTAIN: Feels like I'm 2 walking up on a talent show or something. (Speaking in indigenous language.) 3 My name is Robert White Mountain. I'm a 4 Hunkpapa Lakota. On my mother's side, I come from Sitting Bull, his tiyospaye. On my 6 father's side, I come from Rain in the Face. 8 And this lady that talked before me, I didn't 9 quite get her name, but she brought up a thing that -- before I talk about that, I just want 10 11 you to -- I think everybody is going to raise 12 their hand if you're -- who drinks water? So everybody who drinks water, raise your hand. 13 14 think that's everybody. 15 So I had another question. Who all loves 16 water and would like to protect it? 17 All right. So my grandfather told me one time, he said, "What is a Lakota?" And so he 18 19 told me what a Lakota is. Now, I'm a Hunkpapa 20 Lakota. That's what they call me. He said, "What is a Lakota?" 21 22 A Lakota, he explained to me, is someone 23 that claims to be an ally to the spirit of all that is. And water is part of all that is. 24 25 Water is part of all creation. So if we love

water, we want to protect water, we're all Lakota, and we're all related. We all breathe. We all drink. We all sleep. We all have red blood. We're all related. Even though we may be different colors, whatever it is, but we're all related.

And 36 years ago, I was a young man, and I was at Craven Canyon, and they have some petroglyphs there they were trying to destroy for uranium mining. And these petroglyphs tell history from the beginning to the end on how we are all related, how we all come from the same place. But that's a long story. I won't get into that.

But anyway, it just explains -- to me, just told me, you know, that through these petroglyphs -- we studied those for a long time. We also were put under siege for being there 36 years ago. And three -- two years ago, I was telling the story to some young kids around a fire over here in a cabin in the Black Hills here. And I was telling about how we were praying. All we did was pray for the water.

We prayed for the land, and we got completely surrounded by cops. We got

completely surrounded by vigilantes on horseback. Had 250 cops and vigilantes surrounding us because we wanted to pray for the land.

End result was -- end result of that whole thing was that I was able to stop the uranium mining right there at Craven Canyon, and we have saved that sacred site.

But now it's under fire again because of what's going on here today, and I really -- I really -- you know, I went up on the hill and I fasted and I prayed several times, a couple times. And I went up in the Badlands.

And after this last time I went up there and I fasted and prayed for four days and four nights, I come to realize, you know, though that -- what that teacher was telling me that, you know, some day throughout your spiritual life or your life, you'll realize that someday you are going to look at people and you're not going to see the color, that you're going to see that we're all related.

So after this last time I went up on the hill, I fasted and prayed. After that, I came down, and it was a whole different meaning for

me. So it was -- it was to a point where I could not see color.

I can look at that guy not as a white guy or black guy, I look at him because he's a human being, and we all are human beings and we all need water.

I'm sorry. You know, but the basic thing is we all -- we have so much alternative things that we can do besides destroy ourselves, besides destroy man. You know, I heard a gentleman talking, and he said, you know, the wind -- wind is bad because it kills birds. Solar is bad because you still have to use natural materials to make the panels, costs too much. But I never heard anything about magnetic.

REGIONAL JUDICIAL OFFICER SUTIN: Mr. White Mountain, your time is up. I think you need to wrap up.

ROBERT WHITE MOUNTAIN: I never heard anything about geothermal. Those are all renewable energies. They don't stop, they are not expensive, and they don't cost -- you know, if you use -- and they are all renewable. We don't have to kill ourselves over it.

So I just -- you know, to conclude here, you know, that this land was all taken illegally.

That's all going to be settled eventually, but that's not for us to say right now because it was all taken illegally. We all know that.

But I won't talk about that here, so -- but the thing is, what we're talking about right now is that we're all human. We are all of the human family. We all have to live, and we all want to live together as one family. Thank you.

REGIONAL JUDICIAL OFFICER SUTIN: Thank you very much.

Jeff LaRive.

JEFFREY LARIVE: Show biz.

So my name is Jeffrey LaRive. I'm fourth generation here in Hot Springs. I admire the preparedness of the previous speakers. I am not prepared. But I am here to say that once this resource is extracted and the coffers have been lined for Powertech, they will move on. They are not concerned about your drinking water or your children's drinking water or your quality of life here in Hot Springs.

They will be living in a gated community in Vail or an alpine lodge in Switzerland. So if

1 you're mistaking this for energy independence or 2 caring about our community, you're kidding yourselves. This is about using us and moving 3 And that's all I can see. Thank you. 4 on. REGIONAL JUDICIAL OFFICER SUTIN: Thank you. We are close to the 8:00 hour. I know that 6 there were several folks that wanted to get back 8 up and speak. I would ask that if you have more 9 to say that you come tomorrow to Edgemont. 10 If there is someone who is not able to come to Edgemont tomorrow, I will take one more 11 12 speaker, and we'll end there. 13 Have you spoken before, ma'am? LINSEY MCLEAN: 14 Yes. REGIONAL JUDICIAL OFFICER SUTIN: 15 16 Ms. McLean, come on up. 17 LINSEY MCLEAN: I'll be brief. 18 My name is Linsey McLean. I know that the 19 EPA has, to date, approved all of the applications that have come before you for Class 20 III and Class V UIC wells. And I know that all 21 of these wells have commonalities that are 22 23 requirements for this approval. However, this Dewey-Burdock area has five 24 25 other factors that would preclude this permit

that other sites already permitted do not have and that makes this site very different.

Number one, there's no concentrated roll-front left to mine profitably. It's all been mined out by the TVA a long time ago.

Number two, no ability to dewater the area, and that was determined by the TVA also and why they abandoned the site, so that there's no ability to confine the communicating aquifers.

Number three, the old boreholes were actually holes that they actually were going to use as their wellfield that they abandoned, and that makes this situation even worse.

Number four, the proximity of Igloo, which is the most dangerous collection of unstable nerve gasses and old, unstable munitions in the world buried there. Igloo is downgradient of Dewey-Burdock.

Moving wastewater will destabilize Igloo and pick up even more toxins and move them and likely cause an event of epic proportions.

And finally, number five, the open boreholes and the fence posts and at least some of them have allowed contamination to the aquifer of microorganisms that are known to organify metals

and make them unrecoverable by ion exchange.

With the history of now high levels of naturally occurring organic uranium in other mine sites where they're finding this where there was no contamination by microorganisms like Dewey-Burdock, this situation is very relevant.

And so with the low levels of uranium in the proposed site, coupled with the high proportion of unrecoverable uranium likely, this will not be a profitable mining operation. And so if there ever was a case for denying a permit, this is one. Thank you.

REGIONAL JUDICIAL OFFICER SUTIN: Thank you.

I want to thank you, everyone, for coming to testify today. We really do appreciate and want all your comments.

Please come tomorrow, and we will be in Edgemont, same format. 1:00 to 2:00 we will have an information session. From 2:00 to 5:00 will be an open hearing, and we'll take testimony. We'll take a break from 5:00 to 6:00, and then more testimony from 6:00 to 8:00. So please come if you have more to say.

At this point, I will conclude this hearing.

```
And the hearing is now closed. Thank you again
 1
 2
            for coming.
 3
                 (Proceeding was concluded at 8:02 p.m.)
 4
 5
 6
 7
 8
 9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
```

1	CERTIFICATE
2	
3	STATE OF SOUTH DAKOTA }
4	} SS: COUNTY OF PENNINGTON }
5	
6	I, Jacqueline K. Perli, Registered Professional
7	Reporter, do hereby certify that said proceedings were taken by me stenographically and thereafter reduced to
8	typewriting under my supervision; that the foregoing is a true and accurate record of the proceeding to the best of my understanding and ability.
9	I further certify that I am neither counsel for,
10	related to, nor an employee of any of the parties to this case and have no interest, financial or
11	otherwise, in its outcome.
12	
13	Dated this 31st day of May, 2017.
14	/s/ Jacqueline K. Perli
15	Registered Professional Reporter
16	Black Hills Reporting 1601 Mt. Rushmore Rd., Ste. 3280
17	Rapid City, SD 57701 605.721.2600
18	Notary Public My commission expires: May 9, 2019
19	
20	
21	
22	
23	
24	
25	

```
1
      < Dates >.
      11/17/16 99:2, 99:4.
      March 29, 2017 164:10.
 2
      March 6, 2017 3:10, 111:12.
 3
      March 7, 2017 111:12.
      May 10, 2017 1:7.
      May 19, 2017 4:1.
 4
      May 19th 115:1.
 5
      May 19th, 2017 112:3.
      May 9, 2017 165:8.
 6
      May 9, 2019 182:33.
      May, 2017 182:24.
 7
      $750 44:13.
      $8 97:19.
 8
      .o. 149:6.
      /s/ 182:25.
 9
      < 1 >.
10
      1 18:6.
11
      1,000 163:25.
      1,500 22:25.
12
      1. 90:2.
      10 22:14, 35:8, 158:10.
13
      10,000 32:12.
      100 103:5, 107:13.
14
      100,000 40:14.
      100. 149:1.
15
      1000 27:22.
      1025. 16:9.
16
      103 108:12.
      10th 157:22.
      11/17 99:22.
17
      117 90:24.
18
      12 75:10, 139:23.
      125 16:23, 165:2.
19
      12th 118:9, 120:13, 139:9.
      13 139:21.
      140 139:18.
20
      146.4 98:6, 98:14, 99:10.
21
      146.4. 98:9.
      14th 139:9.
22
      15 24:24, 43:4, 79:25, 161:22.
      15,000 132:12.
23
      1500 36:17.
      15th 139:9.
24
      16 100:13, 100:25, 139:19.
      16. 101:24.
25
      1601 182:29.
      17 24:24, 161:20, 162:12.
```

```
1
      18-month-old 60:6.
      1800s 19:1.
 2
      1851 75:16, 79:17, 138:11.
      1868. 138:12.
 3
      1890 165:19.
      1902. 46:1.
 4
      1950s 46:17.
      196 34:20.
 5
      1960s 46:17, 61:13.
      1970s 59:20, 61:4.
 6
      1974 35:25.
      1974. 91:11.
 7
      1977 158:17.
      1978 142:10.
 8
      1978. 142:10.
      1980s 106:9, 165:11.
 9
      1983 60:6.
      1986. 158:17.
      1987. 169:13.
10
      1990 29:16.
11
      1996. 148:6.
      1:00 1:8, 10:5, 180:19.
12
13
      < 2 >.
      2 52:22, 139:25.
      20 35:8, 55:10, 65:4, 65:12, 74:10, 84:1, 151:20,
14
        165:6.
15
      200 46:16.
      2002 59:14.
16
      2004 139:9.
      2007. 32:8.
17
      2011-2012 39:4.
      2014 139:1.
18
      2016 101:19.
      2017-10: 18:16.
19
      2017. 157:22.
      21 127:17.
20
      22 24:17, 121:7.
      2244 52:16.
21
      23 21:10.
      24 94:8.
22
      24/7 94:21.
      24/7. 94:14.
23
      25 22:21, 118:22, 144:19.
      250 175:2.
24
      2500 47:25.
      26 23:5.
25
      2:00 4:13, 180:19, 180:20.
```

```
1
      < 3 >.
 2
      30 20:19.
      30-some 125:18.
      300 27:21.
 3
      31st 182:24.
 4
      3280 182:29.
      35,000 107:21.
 5
      350,000 33:2.
      36 174:7, 174:18.
 6
      3:27 63:1.
      3:37 62:23.
 7
      3:47 63:1.
      3:47. 62:23.
 8
 9
      < 4 >.
      4 117:10, 139:20.
      4,000 47:12, 48:19, 151:15.
10
      4,177 139:16.
11
      4. 18:6.
      40 21:25, 42:7, 84:20, 98:6, 98:9, 98:14, 99:9.
12
      400 22:9.
      400-page 29:20.
13
      404 158:20.
      450 84:22.
14
      450000000.00 57:2.
      4:58 110:13.
15
16
      < 5 >.
      5 118:21.
17
      50 29:21.
      500 21:16, 73:7, 76:16, 109:18, 128:22.
18
      500-plus 140:20.
      50s 14:11.
19
      55 84:22.
      56 139:16.
20
      57701 182:30.
      57747 1:12.
21
      580 106:19.
      5:00 4:13, 4:15, 110:7, 180:20, 180:22.
22
23
      < 6 >.
      6 139:22.
24
      60 22:1, 49:7, 118:10.
      605.721.2600 182:31.
25
      63 140:2.
      640 43:5.
```

```
6:00 4:15, 4:16, 110:13, 112:14, 180:23.
1
      6:00. 110:9.
 2
      < 7 >.
 3
      7 21:18, 139:24, 140:20.
 4
      7,515 139:17.
      7,650 46:25, 48:19.
 5
      7,929 148:25.
      70 118:19.
      70s 14:12, 61:13, 106:3.
 6
      750,000 109:1.
 7
      760 32:22.
      7600-plus 36:3.
 8
9
      < 8 >.
      8 58:17, 132:9.
      8,000 31:7, 96:4, 96:6, 132:7.
10
      8. 58:18.
      80 33:2, 107:20.
11
      80. 107:20.
12
      801 1:11.
      80s 14:24.
13
      8:00 1:8, 112:14, 178:6.
      8:00. 4:16, 180:23.
      8:02 181:3.
14
15
      < 9 >.
16
      9. 58:15.
      90 47:7.
      95th 61:12.
17
      97.5 61:3.
18
      98 46:7, 110:2.
      [sic] 169:20.
19
20
      < A >.
      abandoned 36:4, 47:4, 74:16, 100:7, 108:13, 179:8,
21
        179:12.
      ability 86:14, 91:6, 168:19, 179:6, 179:9, 182:16.
      able 9:25, 46:7, 87:24, 88:6, 88:15, 91:18, 92:11,
22
        113:8, 126:8, 127:6, 129:12, 139:15, 153:7, 168:16,
23
        175:6, 178:10.
      abnormal 119:19.
24
      above 8:21, 37:15, 60:7, 60:11, 88:14.
      absolute 125:22.
25
      absolutely 28:6, 89:2.
      absorption 88:5.
```

```
1
      sources 27:3, 27:4, 28:13, 36:22, 46:8, 102:9, 146:1,
        151:21.
 2
      SOUTH 1:11, 3:14, 4:3, 16:8, 16:11, 17:19, 18:20,
        20:10, 21:15, 21:18, 26:17, 28:17, 29:1, 30:22,
        31:6, 31:22, 34:17, 35:3, 39:3, 44:5, 45:24, 46:14,
 3
        48:1, 48:4, 50:7, 57:21, 65:8, 65:10, 70:20, 72:1,
        75:12, 78:15, 80:2, 80:3, 83:25, 85:20, 85:24,
 4
        97:13, 106:10, 107:9, 108:12, 111:16, 143:17,
        144:19, 148:7, 148:24, 153:9, 153:19, 158:1, 158:11,
 5
        159:3, 159:9, 159:14, 167:10, 169:13, 182:5.
 6
      southeast 164:14.
      Southern 62:4, 161:13, 162:13, 163:22.
 7
      Southwest 22:24, 78:16, 84:24, 108:19.
      sovereign 78:2, 103:3.
 8
      Sovereignty 74:19, 80:6, 135:24, 148:11.
      sow 56:9.
9
      space 43:12, 43:13, 60:11.
      spaces 118:17.
10
      spatial 41:16.
      speaker 10:17, 63:14, 117:5, 178:12.
      speakers 4:17, 112:15, 157:8, 177:17.
11
      Speaking 43:3, 63:10, 63:15, 64:24, 75:7, 75:21,
        77:25, 79:18, 79:23, 80:25, 81:4, 90:14, 102:25,
12
        103:6, 103:17, 103:20, 104:9, 104:12, 105:14,
13
        127:15, 129:16, 135:10, 141:8, 156:11, 157:18,
        165:8, 173:3.
14
      Specialist 3:3, 3:8, 111:8.
      speciated 87:22.
15
      speciation 89:5.
      specific 25:9, 53:19.
16
      speech 136:1.
      spelled 99:1.
17
      spend 53:25.
      spending 59:16.
18
      spent 65:16, 149:17, 169:7.
      Sperlich 167:6, 167:7, 167:9.
      Spillane 18:2, 18:4, 18:10, 18:12, 20:14.
19
      spirit 173:23.
20
      spiritual 103:24, 105:1, 175:18.
      spirituality 156:25.
21
      spiritually 75:14, 80:12, 103:25.
      spitting 84:9.
22
      spoke 70:7, 92:6, 92:9, 164:9.
      spoken 90:9, 171:8, 178:13.
23
      spread 11:23.
      spring 59:15, 62:18.
24
      Springs 1:12, 18:5, 18:8, 18:15, 18:20, 18:23, 18:25,
        19:3, 19:4, 19:16, 19:22, 20:3, 20:5, 20:20, 30:19,
25
        34:15, 35:21, 39:2, 52:8, 53:25, 55:11, 59:14, 90:2,
        90:15, 90:22, 90:25, 92:20, 97:4, 117:15, 120:22,
```

```
1
        121:12, 124:14, 125:17, 143:25, 144:18, 149:13,
        149:15, 156:10, 165:15, 167:13, 167:23, 177:16,
 2
        177:23.
      SS 182:6.
 3
      St. 4:3, 10:4, 112:5.
      staff 2:8, 6:25, 110:21, 114:16.
 4
      stage 33:25.
      staged 125:1.
 5
      stake 120:17, 123:10, 123:17.
      stand 65:15, 71:4, 76:12, 76:14, 79:10, 83:4, 83:9,
 6
        97:9, 141:1, 171:25.
      standard 74:21.
      standards 15:5, 74:13, 161:17, 163:5, 172:3.
 7
      Standing 2:22, 3:1, 3:7, 76:12, 81:10, 109:20, 111:9,
 8
        135:19, 136:15, 137:19, 148:11, 149:22.
      STANDS 60:14, 71:22, 75:13, 105:20, 135:2, 141:5,
9
        141:6, 141:7, 144:9, 144:11.
      Star 167:23.
10
      stare 144:6.
      start 62:23, 104:4, 105:5, 117:21, 138:19.
      started 2:13, 8:2, 10:14, 44:19, 45:14, 63:3, 79:6,
11
        95:14, 117:4, 135:19.
12
      starting 66:11.
      startup 33:2.
      starving 11:25.
13
      STATE 4:25, 14:24, 15:3, 15:4, 16:7, 20:9, 28:17,
14
        39:5, 40:4, 40:24, 43:6, 44:16, 48:1, 55:6, 66:13,
        109:1, 109:5, 112:19, 117:9, 148:18, 150:24, 151:1,
        153:7, 159:2, 161:10, 165:7, 168:11, 182:5.
15
      stated 11:19, 13:8, 19:16, 23:12, 29:10, 92:7,
16
        121:10.
      Statement 16:14, 90:5, 147:23, 158:1.
      States 15:14, 21:11, 22:13, 23:6, 25:7, 25:8, 33:10,
17
        40:23, 65:5, 95:16, 122:1, 122:8, 138:5, 138:8,
18
        147:14.
      static 53:11.
19
      stating 123:9.
      statistically 146:6.
20
      statistics 136:2.
      status 89:3, 99:6, 99:19, 100:15, 102:17.
21
      stay 67:11, 67:12, 67:13, 172:3.
      Ste 182:29.
22
      steady 46:10.
      steel 139:23.
23
      steeply 21:14, 23:2.
      Stein 71:24, 71:25, 75:3.
24
      stenographically 182:13.
      stepped 2:15, 71:23.
25
      steps 74:7.
      stern 154:9.
```

```
1
      stewardship 74:22.
      stick 137:25.
 2
      sticking 81:25.
      stock 73:6.
 3
      stomach 13:15.
      Stone 107:10.
      stop 5:7, 31:4, 48:6, 48:7, 48:8, 49:23, 64:13, 71:6,
 4
        97:2, 102:21, 115:14, 120:23, 125:11, 129:24,
 5
        137:22, 175:6, 176:22.
      stopped 102:11.
 6
      storage 11:13, 95:1.
      stored 34:2, 40:11, 40:18.
 7
      stories 84:4.
      storm 19:5.
 8
      story 80:14, 122:2, 142:4, 144:1, 144:4, 174:13,
        174:20.
9
      strain 51:11.
      strata 21:25.
10
      straw 148:5.
      straying 5:9, 113:4.
      stream 11:20, 73:14.
11
      Street 1:11, 96:25.
12
      stresses 25:12.
      stringent 8:24.
13
      strip 94:16.
      stroke 118:6.
14
      strong 68:6.
      stronger 75:14.
15
      strongly 15:25, 52:1, 172:20.
      strontium 149:19.
16
      Strontium-90 145:22, 145:24.
      structural 21:13, 21:17, 22:2.
      structure 47:21, 48:21, 103:16, 155:7, 155:8.
17
      structures 37:2, 37:5, 52:24.
18
      student 139:10.
      students 78:13, 78:14, 78:20, 78:21, 78:24.
19
      studied 41:7, 86:20, 174:17.
      studies 41:5.
20
      Study 29:16, 39:7, 85:3, 105:15, 107:7, 171:1.
      studying 95:14.
21
      stuff 31:24, 78:13, 83:11, 117:18, 117:20, 126:6,
        126:9, 126:14, 127:1, 144:6, 153:15, 170:23.
22
      subdivide 52:23.
      subject 33:7.
23
      subjugation 11:25.
      submit 7:8, 47:23, 114:25.
24
      submitted 165:10.
      submitting 7:10, 53:18, 62:10, 85:7.
25
      subsequent 11:3, 29:17.
      Substances 40:14, 86:5, 86:18.
```

```
1
      substantial 54:6.
      subsurface 21:2, 21:6, 22:6.
 2
      successful 102:13.
      succinct 5:8, 113:3.
 3
      Suchumek 127:13.
      suction 36:19.
      suffer 82:21.
 4
      suffered 51:14.
 5
      suffering 85:23.
      sufficient 38:7, 48:14, 101:11.
 6
      suggest 76:2, 172:20.
      suggested 149:20.
 7
      suggests 24:21.
      Sugzda 134:2, 134:4, 134:5.
 8
      suit 68:9, 129:23.
      suits 69:11, 169:15.
 9
      sulfate 35:10, 86:5.
      Sulfuric 95:24, 95:25.
10
      summary 166:20.
      summer 13:12.
11
      Sundance 21:21.
      Super 168:11.
12
      Superfund 58:14, 59:1.
      supervision 82:7, 182:14.
13
      supplies 29:2, 29:8, 29:12, 46:9, 162:16.
      supply 14:14, 16:22, 19:19, 19:20, 19:25, 26:3, 28:21,
14
        32:10, 52:16.
      support 20:8, 53:20, 107:1, 150:18.
15
      supporting 7:4, 97:20, 114:21, 150:6, 150:7.
      supports 56:25.
16
      supposed 35:12, 67:12, 83:5, 83:12, 86:22, 172:3.
      supposedly 35:12, 67:24, 168:23.
17
      suppress 140:11.
      suppressed 36:24.
18
      supremacy 109:17.
      Surface 20:11, 37:6, 50:19, 107:3, 158:18, 167:15,
19
        167:17.
      surprised 69:5.
20
      surrounded 174:25, 175:1.
      surrounding 18:23, 175:3.
21
      Survey 25:8.
      surveys 72:17, 81:13, 124:19.
22
      survive 46:7.
      Susan 45:21, 45:22, 45:23, 49:16, 134:2, 134:4, 134:5,
23
        149:15.
      suspect 13:6.
24
      suspended 47:2.
      sustain 54:20.
25
      sustains 17:24.
      SUTIN 2:1, 2:3, 2:17, 8:7, 10:13, 13:20, 15:19, 17:25,
```

```
1
        20:13, 25:3, 26:10, 30:15, 34:10, 34:24, 35:16,
        35:19, 38:21, 42:25, 45:19, 49:13, 49:24, 51:22,
 2
        54:24, 57:12, 58:17, 58:20, 58:23, 59:10, 62:20,
        63:2, 64:25, 69:14, 69:21, 71:20, 75:2, 75:19,
 3
        77:20, 77:23, 79:21, 81:1, 84:15, 89:11, 89:16,
        89:23, 92:21, 97:5, 101:3, 101:8, 101:25, 102:15,
        102:20, 102:23, 105:10, 105:18, 105:23, 107:22,
 4
        108:2, 108:4, 110:5, 110:14, 110:15, 115:24, 116:25,
        117:3, 121:3, 121:13, 125:13, 127:10, 129:18,
 5
        133:25, 135:7, 138:21, 141:3, 144:8, 144:13, 147:19,
        150:14, 150:19, 154:13, 156:7, 157:19, 160:25,
 6
        161:3, 161:24, 162:8, 166:17, 167:4, 169:9, 172:17,
 7
        172:24, 176:17, 177:11, 178:5, 178:15, 180:14.
      Swan 156:16.
 8
      sweating 120:6.
      sweats 120:10.
9
      sweep 82:11.
      Swift 135:14.
10
      swim 117:18.
      swimming 165:19.
      Swiss 48:24, 49:1.
11
      Switzerland 177:25.
12
      swore 68:13, 68:14.
      symbiotic 56:6.
13
      symptomatic 120:2.
      synthetic 87:3.
14
      System 93:7, 120:1, 122:22, 123:12, 126:22, 145:7,
        161:13, 164:16, 165:20.
15
      systems 17:5, 19:6, 164:23.
16
      < T >.
      table 2:23, 7:1, 7:11, 12:5, 111:5, 111:10, 112:17,
17
        114:17, 115:3, 143:4.
18
      tailings 15:1, 40:14, 40:18, 169:17.
      talent 173:2.
19
      talked 109:16, 126:23, 167:24, 173:8.
      talks 9:16.
20
      tanks 109:22.
      tap 52:25.
21
      target 86:14.
      targeted 99:7, 100:2, 100:13.
22
      TASINA 135:9, 135:10.
      taste 172:5.
23
      tasted 79:5.
      taught 66:10, 75:13.
24
      taxes 49:7.
      taxpayer 168:14.
25
      taxpayers 17:7, 51:17, 135:4.
      teach 69:9, 69:12, 69:18.
```

```
1
      teacher 175:17.
      Technical 99:3.
      Technically 77:10, 160:10.
 2
      technician 117:12.
 3
      technologies 24:5.
      technology 21:5, 37:17, 90:3.
 4
      tedious 73:19.
      teeth 145:21, 145:23, 146:3, 146:7.
 5
      tells 89:20, 142:4.
      temporarily 110:10.
 6
      temporary 144:23.
      ten 31:8, 31:17, 33:18, 97:1, 106:11.
 7
      ten-minute 62:22.
      tended 76:23.
 8
      Tennessee 33:17, 47:1, 139:12, 169:14.
      term 12:1, 12:2, 42:9.
      terminated 11:3, 130:14.
 9
      termination 73:15.
10
      terms 12:2, 30:1.
      terrace 22:5.
      terraces 158:13.
11
      terrible 67:20.
12
      territorial 143:16.
      test 24:23, 36:16, 161:20.
13
      tested 43:7, 85:9, 89:3.
      testified 28:18.
14
      testify 180:16.
      testifying 122:4.
15
      testimonies 79:16, 82:9.
      testimony 4:13, 4:16, 4:25, 5:2, 5:6, 5:17, 6:13,
        6:25, 7:15, 55:16, 62:9, 63:13, 69:7, 85:7, 93:1,
16
        112:14, 112:19, 112:21, 113:2, 113:8, 113:11,
        114:16, 115:7, 115:11, 115:14, 140:14, 140:18,
17
        180:22, 180:23.
18
      testing 23:16, 38:11, 44:13, 89:5, 89:6, 89:14, 92:13,
        145:25.
      tests 62:10, 124:23.
19
      Texas 122:25.
20
      Thanks 65:2, 89:25, 116:24.
      theirselves 80:18.
21
      themselves 57:25, 81:7, 124:10, 137:9, 154:10,
        160:21.
22
      Theodore 129:19, 129:20.
      thereafter 182:13.
      They'll 35:8, 56:13, 152:17, 152:19, 169:1.
23
      they've 66:19.
24
      thinking 104:14, 167:17, 168:7.
      third 9:15, 121:1, 153:5.
25
      third-world 121:9.
      thirst 119:7.
```

```
1
      thorium-234 40:15.
      though 69:6, 144:12, 174:4, 175:16.
 2
      thousand 159:7.
      thousands 34:19, 109:2, 134:8, 146:21.
 3
      threat 19:25, 53:6, 70:16, 155:3.
      threaten 32:3.
 4
      threatened 155:21.
      threats 29:11, 149:7, 155:21.
      Three 9:5, 9:6, 11:7, 22:11, 53:13, 106:25, 139:10,
 5
        156:16, 174:19, 179:10.
 6
      three-month 144:23.
      three-year-old 70:25.
 7
      throats 73:1.
      throughout 95:15, 118:13, 161:10, 175:18.
 8
      throw 66:3, 108:24, 144:6.
      Thunder 33:11, 121:14, 121:15, 121:17, 125:14.
 9
      thyroid 88:10.
      Tim 84:16, 105:24.
10
      tiny 158:4.
      tissues 86:15.
      Title 98:6, 98:14.
11
      titled 149:4.
12
      tiyospaye 173:6.
      Tobacco 63:14, 63:15, 63:17.
13
      Today 2:3, 2:7, 3:22, 4:11, 5:19, 6:5, 6:8, 9:24,
        10:10, 51:18, 53:19, 55:2, 55:16, 61:1, 61:11,
14
        61:16, 63:19, 70:14, 78:23, 79:3, 79:16, 103:3,
        105:12, 109:16, 110:18, 111:25, 112:13, 124:9,
15
        147:2, 147:4, 147:16, 148:15, 148:20, 156:19, 157:9,
        163:11, 172:23, 175:10, 180:16.
      together 49:23, 71:15, 133:1, 133:11, 177:10.
16
      tomorrow 4:2, 10:3, 10:5, 105:17, 112:4, 178:9,
17
        178:11, 180:18.
      ton 40:17.
18
      TONIA 71:22, 75:13, 105:20, 141:5, 141:6, 141:7,
        144:11.
19
      tonight 113:25, 114:3, 121:18, 125:12.
      tons 40:18.
      took 60:6, 61:5, 61:6, 70:12, 129:13, 131:13, 144:7,
20
        146:21, 168:10.
21
      tools 168:3.
      Tooth 145:20.
22
      top 140:4.
      topic 5:10, 113:4.
23
      topography 56:17.
      Toshiba 11:4.
24
      total 21:16, 32:10, 73:7, 119:19, 139:16.
      totally 86:2.
25
      touch 68:25, 153:25.
      tourism 32:1, 49:9, 126:25.
```

```
1
      tourist 126:14.
      toward 47:22.
 2
      town 15:2, 19:1, 32:11, 53:16, 56:12, 161:15, 167:12.
      towns 17:12.
 3
      toxic 25:22, 26:16, 26:23, 27:3, 27:6, 28:8, 32:2,
        40:4, 40:19, 54:19, 55:19, 88:20, 137:7.
 4
      toxicities 86:10, 88:22.
      toxicity 87:11, 88:24, 89:2, 89:14, 89:21, 149:12.
 5
      toxicology 84:20.
      toxins 179:20.
      track 67:20, 74:18, 164:17.
 6
      tract 87:25.
 7
      traction 155:19.
      traditional 75:6, 78:3, 78:10, 103:13, 148:9.
 8
      traffic 17:3.
      trail 171:4.
 9
      trained 68:7, 68:8, 154:19.
      transcript 6:8, 6:15, 6:22, 7:3, 114:3, 114:6, 114:12,
        114:19.
10
      translator 76:1.
11
      translators 72:17.
      transmission 11:12.
12
      transmissivity 27:17, 29:19.
      transmit 158:23, 161:6.
13
      transportation 94:17.
      trapped 107:12.
14
      trash 66:4.
      travel 25:15, 65:9, 66:12, 86:14.
15
      traveled 20:18.
      traveling 67:4, 152:5.
      treated 3:19, 11:18, 73:12, 111:21.
16
      treaties 103:7, 103:8.
      treatment 13:12, 72:20, 102:10.
17
      Treaty 70:13, 75:16, 75:18, 79:17, 103:2, 104:14,
18
        104:15, 105:15, 135:23, 138:11.
      trees 65:22.
19
      trending 22:24.
      triangle 5:4, 115:13.
      tribal 9:16, 9:23, 72:15, 74:19, 82:8, 109:18, 116:15,
20
        116:22, 135:24, 156:17.
21
      Tribal-approved 72:16.
      Tribe 103:14, 108:8, 121:18, 135:13, 139:2.
      tribes 9:18, 116:18, 116:21, 125:10, 125:11.
22
      tributaries 160:3.
      trip 61:6, 61:7.
23
      tritium 36:20, 37:8.
24
      truck 17:3.
      True 38:12, 89:13, 155:13, 182:15.
25
      Trump 45:4.
      trusted 51:4, 156:3.
```

```
1
      Truth 59:21, 59:22.
      Truthfully 42:21.
 2
      try 5:8, 13:23, 57:23, 58:4, 63:11, 113:2.
      trying 31:22, 44:15, 65:17, 100:17, 126:12, 168:6,
 3
        174:9.
      Tuesday 4:7.
 4
      Tunkasila 130:6.
      tunnel 148:19.
      turn 4:10, 4:24, 7:19, 7:24, 17:11, 45:10, 112:11,
 5
        112:17, 121:8, 134:14.
      turned 13:23, 59:25, 60:1, 74:9.
 6
      turns 74:22.
      TVA 32:23, 36:24, 140:5, 179:5, 179:7.
      two 3:10, 4:6, 8:7, 11:1, 16:22, 22:15, 25:7, 53:10,
 8
        74:7, 90:9, 95:7, 101:20, 101:23, 103:2, 103:9,
        103:11, 111:13, 112:7, 115:25, 144:17, 162:12,
 9
        174:19, 179:6.
      type 8:9.
10
      types 8:8, 9:5, 9:6, 58:6.
      typewriting 182:14.
11
12
      < U >.
      ugly 84:3, 94:11.
13
      UIC 3:11, 3:15, 3:17, 3:22, 9:1, 52:2, 52:3, 97:14,
        98:19, 98:21, 101:21, 111:14, 111:17, 111:19,
        111:24, 121:19, 125:2, 178:21.
14
      ultimately 46:19, 46:20, 47:13, 150:17.
15
      unable 70:8.
      unanswered 16:18.
16
      unattended 71:9.
      unbeknowing 169:20.
17
      uncared 71:9.
      uncased 139:19.
18
      uncomfortable 14:9.
      unconfined 166:25.
19
      Underground 1:2, 2:20, 2:24, 3:11, 7:21, 8:8, 12:25,
        20:11, 33:23, 34:5, 37:1, 46:8, 50:17, 56:17, 60:10,
        102:5, 110:25, 111:3, 111:6, 111:13, 115:25, 148:17,
20
        164:21.
21
      underlies 24:16.
      underlying 166:2.
22
      underneath 47:21, 48:21, 55:20, 137:13.
      understand 37:13, 38:13, 55:7, 63:12, 130:16, 132:8,
        133:2, 134:11, 141:21, 153:13, 153:14, 163:1.
23
      understanding 55:21, 77:2, 170:12, 182:16.
24
      understood 73:20.
      undetected 163:16.
25
      undo 15:8.
      undrinkable 137:14, 137:15, 137:16.
```

```
1
      unexplained 137:24.
      unfortunate 168:12.
 2
      Unfortunately 169:19.
      Unit 2:20, 2:24, 7:21, 110:25, 111:3, 111:6.
 3
      United 25:7, 25:8, 33:9, 40:23, 65:4, 95:15, 138:5,
        138:8, 147:14.
 4
      universal 105:3.
      universe 43:14, 142:16.
      University 41:7, 55:6, 170:5.
 5
      unknown 25:25, 36:23, 41:1, 41:2, 164:24.
 6
      unless 27:10, 53:2.
      unnecessary 26:7.
 7
      unrecoverable 180:1, 180:10.
      unresolved 11:6.
 8
      unscathed 130:25.
      unsolved 73:22.
 9
      unspoiled 146:20.
      unstable 42:18, 179:15, 179:16.
      Until 3:25, 4:13, 9:22, 36:3, 72:13, 74:16, 87:6,
10
        112:2, 116:22.
      untouched 146:20.
11
      untrue 55:9.
12
      unusable 37:11.
      upgrade 89:4.
13
      uphold 70:12.
      uplift 33:25, 36:6.
14
      uplifted 21:15.
      Upper 24:15, 25:1, 159:1, 159:18, 159:20, 161:9,
15
        166:16.
      uprising 92:1.
      Uranium 3:13, 3:17, 8:12, 12:22, 12:23, 14:11, 14:17,
16
        14:19, 14:20, 16:1, 16:15, 21:6, 23:21, 24:3, 26:15,
        26:21, 28:10, 30:25, 31:22, 32:1, 33:6, 33:18, 34:8,
17
        37:19, 39:8, 39:10, 39:14, 39:19, 39:24, 40:2, 40:7,
        40:10, 40:12, 40:25, 41:3, 42:19, 43:22, 47:2,
18
        47:16, 50:5, 50:11, 51:15, 51:19, 52:3, 53:13, 54:5,
19
        54:8, 54:19, 55:23, 57:2, 61:11, 61:12, 62:6, 62:15,
        70:15, 70:17, 70:19, 71:6, 72:8, 72:10, 74:18,
        79:14, 85:8, 85:10, 85:11, 85:14, 86:19, 86:21,
20
        86:23, 86:24, 87:15, 87:20, 87:22, 89:7, 97:12,
        98:20, 102:6, 102:10, 102:14, 107:12, 108:13,
21
        111:16, 111:19, 116:2, 116:5, 116:8, 119:2, 120:19,
22
        132:1, 132:16, 132:21, 138:1, 150:1, 155:1, 155:5,
        157:23, 168:1, 169:17, 169:20, 170:11, 171:23,
        172:10, 174:10, 175:6, 180:3, 180:8, 180:10.
23
      uranium-bearing 97:16.
24
      urge 52:1.
      URIAH 50:1, 50:2.
25
      USA 3:12, 73:3, 111:14.
      usable 17:11, 28:25, 73:11.
```

```
1
      usage 29:7.
      useless 95:24.
 2
      uses 52:21.
      USGS 29:17, 36:20, 37:4, 42:3, 102:12, 149:18, 164:10,
        165:25.
 3
      Using 34:20, 89:19, 98:9, 100:9, 126:5, 138:3, 151:24,
 4
        156:20, 178:3.
      utilize 98:21, 163:12.
      utilized 163:21, 165:17.
 5
      Utopian 149:5.
 6
 7
      < V >.
      vacant 171:12.
 8
      Vail 177:25.
      Valentine 4:6, 112:6.
      Valley 19:3, 33:17, 47:1, 139:12, 169:15.
 9
      Valois 2:19, 7:19, 99:3, 101:17, 101:18, 111:2, 111:6,
10
        124:13.
      valuable 146:24.
11
      value 16:10, 28:11, 72:2, 72:4, 128:8, 139:25.
      values 36:19.
12
      vanadium 60:24, 61:2, 61:3.
      Vanderpool-mcclain 3:1.
13
      variables 50:18.
      varied 12:3.
14
      variety 29:25, 119:22.
      various 41:16, 48:21, 73:21, 140:7.
15
      vegetable 165:21.
      vegetables 52:20.
16
      verge 133:9.
      versions 128:10.
      versus 33:2.
17
      vertical 21:14.
18
      vessels 118:24, 119:13.
      veteran 65:4.
19
      Veterans 65:14, 68:13, 117:19, 148:20, 172:7.
      veterinarian 171:22.
20
      vets 172:9.
      VFW 172:8.
21
      via 107:3.
      viability 10:24.
22
      Vice 45:4.
      victims 118:7.
23
      view 6:21, 114:11.
      vigilantes 175:1, 175:2.
24
      VII 84:23.
      violate 29:10.
25
      violated 103:7.
      violation 15:8.
```

```
1
      violations 15:13, 34:8, 51:6.
      Virginia 127:18.
      Vision 121:6.
 2
      visit 117:14.
 3
      visited 95:15, 165:18.
      visits 117:25.
      vital 19:9.
 4
      voiced 82:5.
 5
      volume 74:9, 74:10.
      vomiting 120:1.
 6
      vote 72:1, 143:9.
 7
      < W >.
 8
      waiting 47:19.
      waivers 27:12.
9
      wake-up 30:2.
      walk 65:17, 65:18, 79:6.
      walked 79:3, 168:13.
10
      walking 173:2.
      walls 119:11.
11
      wanted 59:22, 78:12, 78:23, 79:2, 79:12, 81:10, 123:9,
12
        175:3, 178:7.
      wanting 79:9.
13
      wants 2:10, 6:9, 104:6, 110:22, 112:24, 114:4.
      War 33:16.
14
      Ward 18:6, 90:2, 117:10.
      warfare 158:9.
      warm 19:3, 39:13, 75:9, 156:14.
15
      warmed 79:8.
16
      warrior 103:25.
      Washington 49:17, 49:18, 148:18.
      Waste 3:19, 11:6, 11:20, 13:4, 13:9, 16:24, 27:3,
17
        27:4, 27:6, 27:24, 27:25, 28:3, 28:8, 32:2, 36:11,
18
        37:13, 37:19, 37:22, 40:12, 47:15, 48:25, 50:9,
        50:13, 51:1, 51:20, 52:5, 53:5, 56:20, 70:15, 73:16,
        85:18, 87:7, 90:20, 92:4, 94:19, 95:1, 102:8, 107:5,
19
        111:21, 127:4, 147:25, 151:11, 158:24, 161:7, 163:6,
        163:19, 166:8.
20
      wastelands 17:13.
21
      wastewater 19:6, 85:11, 87:10, 87:11, 89:14, 102:7,
        107:2, 179:19.
22
      wastewaters 21:6.
      watch 15:16, 80:13, 133:23.
      watched 15:1, 59:23, 81:20.
23
      watching 67:25.
24
      water- 39:25.
      water-protector 76:4, 76:5.
25
      water-protectors 128:8, 129:1.
      watering 165:22.
```

```
1
      waterline 100:23.
      waters 19:8, 20:4, 20:10, 70:11, 84:5, 87:5, 170:17.
 2
      watershed 158:25, 159:1, 159:17, 159:18, 159:20,
        159:21, 161:8, 161:9.
      ways 67:16, 93:12, 103:13, 152:18.
 3
      wayside 170:20.
 4
      wealth 147:1.
      wealthy 44:1.
 5
      weapons 59:23, 61:15, 145:25, 150:17.
      weather 39:17, 120:9.
 6
     Week 44:8, 148:21.
      weeks 43:7, 136:11.
      weird 128:12.
      welcome 9:8, 65:10, 90:22, 92:25, 97:1.
 8
      welfare 19:12, 20:1.
      well-being 17:14, 156:4.
9
      well-driller 55:10.
      well-known 56:2.
10
      well-spoken 108:22.
      wellfield 160:2, 160:8, 160:13, 160:16, 160:19,
        160:24, 179:12.
11
      wellfields 162:5.
12
      wellness 53:23.
      wells 3:16, 3:18, 8:18, 8:20, 9:15, 14:7, 16:1, 16:23,
13
        17:20, 23:18, 24:20, 25:10, 26:23, 27:2, 31:21,
        32:14, 34:15, 34:19, 35:13, 36:1, 37:24, 38:11,
        47:12, 47:23, 50:10, 50:22, 50:23, 50:25, 51:21,
14
        52:3, 52:4, 53:4, 85:18, 90:21, 90:24, 98:20, 99:23,
        99:24, 100:2, 101:20, 101:22, 102:5, 111:18, 111:20,
15
        116:11, 120:24, 123:4, 125:21, 125:22, 126:10,
        145:3, 145:6, 145:11, 151:15, 151:21, 151:25, 152:6,
16
        152:12, 152:24, 153:24, 165:2, 178:21, 178:22.
17
      West 32:25, 78:16, 148:16.
     Western 31:6, 34:6, 42:20, 46:14, 106:12, 107:9,
18
        134:6.
      wetlands 158:22.
19
      whatever 48:8, 49:20, 58:11, 66:15, 81:14, 81:20,
        82:17, 82:19, 83:20, 109:3, 129:14, 130:14, 174:5.
20
      wheel 156:20.
      Wheeler 20:15, 20:16, 25:4, 25:6, 26:11.
21
      Whereas 18:25, 19:4, 19:10, 19:16, 19:22.
      whether 55:17.
22
     WHITE 71:17, 103:21, 109:17, 122:16, 148:2, 156:16,
        156:22, 156:25, 172:25, 173:1, 173:4, 176:3, 176:17,
23
      whole 24:16, 32:7, 33:24, 60:3, 65:16, 90:7, 95:23,
24
        105:4, 141:22, 170:17, 175:5, 175:25.
      whomever 132:18.
25
      Wiconi 104:23, 104:24, 137:25.
      wide 22:10, 96:3.
```

```
1
      wide-angle 160:5.
      wife 65:7, 67:7, 93:3, 126:3.
      wildlife 17:15, 31:25, 40:6, 47:9.
 2
      Will 2:7, 3:6, 4:2, 4:8, 4:12, 4:13, 4:17, 5:1, 5:3,
        5:5, 5:6, 5:10, 5:14, 5:24, 6:3, 6:6, 6:7, 6:9,
 3
        6:16, 6:23, 7:2, 7:6, 7:24, 7:25, 9:2, 9:3, 9:11,
        9:21, 10:1, 11:13, 12:19, 12:20, 15:9, 15:14, 20:3,
 4
        22:3, 23:15, 24:1, 24:12, 26:24, 27:14, 27:18,
        27:23, 28:3, 28:6, 31:18, 35:7, 35:9, 36:10, 37:17,
 5
        38:5, 38:7, 38:10, 38:18, 41:10, 41:12, 42:22,
        44:14, 44:17, 45:3, 45:8, 46:5, 46:7, 47:20, 47:22,
 6
        48:10, 49:4, 49:5, 49:9, 49:10, 49:18, 50:19, 51:2,
        52:4, 62:23, 64:2, 64:4, 64:14, 67:19, 72:19, 80:7,
 7
        80:14, 80:16, 82:25, 83:25, 84:10, 85:18, 86:6,
 8
        86:9, 87:2, 87:4, 87:9, 91:8, 91:9, 91:11, 91:12,
        91:13, 91:18, 92:2, 92:7, 95:22, 99:19, 101:6,
        102:18, 107:18, 110:8, 110:9, 110:10, 110:19, 112:4,
9
        112:9, 112:12, 112:14, 112:15, 113:1, 113:5, 113:8,
        113:19, 113:23, 114:1, 114:2, 114:4, 114:7, 114:13,
10
        114:18, 114:23, 115:10, 115:11, 115:16, 115:17,
        116:21, 117:1, 117:23, 117:24, 117:25, 118:8,
11
        120:16, 120:21, 121:11, 126:7, 126:15, 126:19,
        127:14, 127:15, 127:17, 133:10, 134:13, 134:14,
12
        136:10, 137:17, 153:19, 158:21, 158:23, 161:6,
13
        172:10, 177:20, 177:24, 178:11, 179:19, 180:10,
        180:18, 180:19, 180:21, 180:25.
      willful 10:20, 19:24.
14
      willing 13:9, 13:18, 15:7.
      WIN 135:9, 135:10.
15
      Wind 28:13, 32:19, 37:2, 48:20, 51:13, 94:9, 94:10,
        94:12, 138:17, 142:1, 142:2, 176:12.
16
      wipe 82:17.
      Wisconsin 148:5, 150:23, 151:1, 151:24.
17
      wise 149:24.
      wish 49:19, 133:15, 153:12, 159:13.
18
      Within 12:4, 19:3, 19:14, 21:22, 22:19, 23:13, 43:7,
19
        43:14, 43:15, 107:13, 139:23, 145:23, 158:14,
        158:25, 159:8, 159:18, 159:19, 161:8.
     Without 37:8, 46:9, 48:4, 80:8, 80:10, 80:11, 118:11,
20
        120:7, 123:15, 143:24, 171:11, 171:13.
21
      witness 33:14, 85:6, 139:1.
      witnessed 166:7.
22
      WOLF 81:6, 147:21, 147:22, 150:14, 150:16.
      Wolfe 150:20.
23
      Woman 75:10, 80:1, 135:12.
      women 76:13, 103:15, 103:19, 108:15, 108:16, 143:2,
24
        172:12.
      wonder 69:4.
25
      wonderful 69:6, 88:9.
      wondering 126:1, 170:23.
```

```
1
      wooden 139:21.
      word 6:14, 49:10, 70:2, 93:16, 104:24.
 2
      words 48:24, 104:1, 159:7.
      work 4:12, 57:23, 59:5, 78:14, 78:15, 78:16, 90:13,
 3
        108:23, 112:13, 124:22, 140:22, 151:5, 151:12,
      worked 13:11, 32:6, 58:13, 58:25, 59:1, 99:5, 106:3,
 4
        151:3, 154:2.
      workers 28:14.
 5
      working 44:8, 62:4.
 6
      works 111:2, 111:5, 132:5.
     World 29:6, 33:16, 73:2, 80:17, 105:4, 121:1, 121:6,
        137:20, 179:17.
      worldwide 28:12, 106:9.
 8
      worried 152:15.
      worries 151:23.
 9
      worse 76:17, 179:13.
      worst 20:25.
      worth 75:1, 106:11, 134:18, 146:15, 159:7.
10
      worthless 48:5.
     Wounded 131:6, 149:21.
11
      wrap 25:5, 34:12, 49:15, 69:17, 89:18, 101:5, 102:1,
        144:10, 161:4, 166:18, 176:19.
12
      written 6:1, 6:24, 7:4, 7:8, 7:16, 63:10, 113:21,
13
        114:15, 114:20, 114:25, 115:7, 139:18, 147:23.
      wrote 16:6, 154:18.
      Wyoming 34:6, 41:9, 85:17, 122:11, 159:9.
14
15
      < Y >.
16
      year 36:15, 132:10, 142:10, 171:17.
      years 9:17, 20:18, 20:19, 31:8, 33:18, 35:8, 37:12,
        40:14, 41:21, 43:4, 55:10, 57:2, 60:8, 65:4, 65:11,
17
        65:12, 75:10, 76:16, 84:1, 84:20, 84:22, 90:16,
        93:10, 97:1, 103:5, 106:11, 106:18, 106:23, 106:25,
18
        109:18, 124:17, 125:18, 127:17, 128:22, 144:19,
19
        146:22, 147:12, 162:12, 165:6, 168:10, 174:7,
        174:19.
      Yellow 5:4, 33:11, 59:25, 60:25, 115:13, 121:14,
20
        121:15, 121:17, 125:14, 156:22, 156:24.
      yellowcake 11:14, 12:23, 26:20.
21
      Yellowstone 91:22.
22
      Yep 58:23.
      yesterday 9:9, 34:14, 70:7, 103:8, 112:7, 137:11.
23
      yoga 53:23.
      young 75:10, 80:1, 136:9, 136:11, 174:7, 174:20.
24
     youngest 148:4.
      yourself 157:14.
25
     yourselves 70:24, 178:3.
      Youth 78:15, 120:15, 120:18, 120:22, 124:9, 135:17,
```

```
1
        135:19.
      Youtube 33:6.
 2
 3
      < Z >.
      zone 21:13, 21:16, 21:17, 21:19, 21:22, 22:16, 22:20,
 4
        22:24, 23:4, 23:15, 24:18, 24:21, 24:22, 37:9,
        41:22, 74:11.
 5
      zones 21:12, 24:2, 24:9, 107:13, 166:16.
      zoning 91:1.
 6
 7
 8
 9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
```